



**Ministry of Higher Education and
Scientific Research
Kirkuk University / College of
Agriculture
Animal Production Department**



Academic Program and Course Description Guide

Animal Production Department

Kirkuk University / College of Agriculture

2024

Academic Program Description Form

University Name: Kirkuk

Faculty/Institute: College of Agriculture

Scientific Department: Animal Production

Academic or Professional Program Name: Animal Production

Final Certificate Name: B.Sc. Agricultural Sciences

Academic System: semester

Description Preparation Date: 28 / 3 / 2024

File Completion Date: 28 / 3 / 2024



Signature:

Head of Department Name: Dr. Qana Hussein
Ameen

Date: 4 / 4 / 2024



Signature:

Scientific Associate Name: Dr. Amar Qahtan
Shanoon

Date: 4 / 4 / 2024



The file is checked by: Dr. Ahmed Isam Dawood

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 04/04/2024

Signature: 



Approval of the Dean

Dr. Osamah I. Ahmed
04/04/2024

1. Program Vision

Organizing scientific symposiums and seminars and participating in scientific conferences and symposiums by presenting research and studies inside and outside the country. And work to exchange experiences, visits, study programs, and academic sabbaticals for members of the department inside and outside the country whenever possible, and carry out joint research with colleges of agriculture and other research and scientific centers and institutions. As well as developing study programs and curricula and linking theory with scientific application by implementing research projects for students and teachers in the college's fields and facilities, and introducing new agricultural sciences and knowledge into the curricula to raise the scientific competence of students.

2. Program Mission

The department's mission includes preparing competent agricultural engineers in the field of livestock sciences (poultry raising, sheep, goats, and cows) and urging them to use modern methods in raising farm animals. Conducting research and studies, adopting modern knowledge, and using and disseminating technology in advanced agricultural fields in order to develop agricultural services and projects to serve the community.

3. Program Objectives

1. Preparing students to be competent engineers qualified to carry out small production projects on their own.
2. Providing students with scientific knowledge and scientific skills that contribute to the growth and development of the sector.
3. Preparing and developing educational and research programs that would lead to achieving and raising standards of quality and scientific efficiency and thus developing the reality of agricultural development in the country, especially the livestock sector.
4. Cooperating with veterinarians in following up on the slaughter and sale of animals and meat.
5. Preparing research and studies related to the development of (poultry and sheep) fields.

4. Program Accreditation

The program is seeking programmatic accreditation

5. Other external influences

Coordination with relevant agricultural departments as well as the participation of private sectors

6. Program Structure

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
Institution Requirements	12	14	% 19.3	fundamental
College Requirements	20	48	% 32.7	fundamental
Department Requirements	29	89	% 47.5	fundamental
Summer Training	1	14		

* This can include notes whether the course is basic or optional.

7. Program Description

Year/Level	Course Code	Course Name	Credit Hours	
			theoretical	practical
First year first semester	ANCH111	Analytical Chemistry	2	3
	PRSO112	Principles of Soil Sciences	2	3
	PRPL113	Principles of Plant Protection	2	3
	PRAN114	Principles of Animal Production	2	3
	SURE115	Surveying Esplanade	1	3
	HUMR116	Human Rights	1	-
	COMA117	Computer Applications1	-	3
	ENGL118	English Language 1	1	-
	ARAL119	Arabic Language	1	-
First year second semester	ORCH121	Organic Chemistry	2	3
	PRFC122	Principles of Field Crops	2	3
	PRST123	Principles of Statistics	2	3
	PRPO124	Principles of Poultry	2	3
	MATH125	Mathematics	3	-
	GENZ126	General Zoology	2	3
	COMA127	Computer Applications2	-	3
Second year first semester	BIOC211	Biochemistry	2	3
	HELA212	Health of Animal Productions	2	3
	PRFI213	Principles of Fish	2	3
	PSHO214	Principles of Horticulture	2	3
	PRAE215	Principles of Agricultural Extension	2	-
	PRMI216	Principles of Microbiology	2	3
	MECA217	Mechanization of Animal Production	2	3
	COMA218	Computer Applications 3	-	3
	BAPC219	Baath Party Cram in Iraq	2	-
Second year second semester	GENE221	Genetics	2	3
	FOPC222	Fodder & Pasture Crops	2	3
	FIPR223	Fish Production & Husbandry	2	3
	PRDA224	Principles of Dairy Science	2	3
	PRAE225	Principles of Agricultural Economy	2	-
	RRED226	Freedom & Democracy	1	-

	COMA227	Computer Applications 4	-	3
	ENGL228	English Language 2	1	-
Third year first semester	ANPH311	Animal Physiology	2	3
	HAMA312	Hatching & Hatcher Management	2	3
	ANIN313	Animal Nutrition	2	3
	ECAP314	Economy of Animal Production	3	-
	ANEB315	Animal Ecology & Behavior	2	-
	EXPD316	Experiment Design & Analysis	2	3
	VETM317	Veterinary Medicine Insect	2	3
Third year second semester	PHYP321	Physiology of Poultry	2	3
	TECP322	Technology of Poultry Production	2	3
	FODD323	Fodder & Diets	2	3
	ANID324	Animal disease	2	3
	ANIB325	Animal Breeding	2	3
	PHYR326	Physiology of Reproduction	2	3
	ENGL327	English Language 3	1	-
Fourth year first semester	POUN411	Poultry Nutrition	2	3
	POUB412	Poultry Breeding	2	3
	SHGP413	Sheep & Goat Production	2	3
	MEAP414	Meat Production	2	3
	POUM415	Poultry Production & management	2	3
	MAPA416	Manage pastures	2	-
	RESP417	Research Project	-	3
Fourth year second semester	POUD421	Poultry disease	2	3
	MOLL422	Molecular Life Science	2	3
	MILC423	Milk Cattle Production	2	3
	MEAS424	Meat Science	2	3
	PROB425	Production of Buffalo	2	-
	SEMI426	Seminar	1	-
	RESP427	Research Project	-	3
	ENGL418	English Language 4	1	-

8. Expected learning outcomes of the program

Knowledge

1. The student learns about zoology and its relationship with other sciences
2. The student learns about chemical coordination in living organisms
3. The student learns about biodiversity conservation
4. The student learns about the economic importance of feed materials
5. The student learns about feed and its types
6. The student learns about the composition of feed materials
7. The student learns how to prepare a balanced diet
8. Introducing a student to farm animals and managing poultry fields and laying hen fields in hot climates
9. Introduce the student to the importance of managing and producing brood fields and fields for cows and sheep.

Skills

1. Introducing the student to the concept of zoology
2. Identify sources of nutrition
3. Introducing the student to the environment and its role in the life of living organisms
4. Introducing the student to the concept of poultry project management.
5. The student's ability to manage poultry slaughterhouses.

Ethics

1. Having the ability to ask and answer questions in the classroom
2. Defining the problem and its solution
3. Learn healthy ways of thinking
4. Conducting graduation projects and how to manage them

9. Teaching and Learning Strategies

- 1- Brainstorming
- 2- Thinking strategy according to the student's ability. Example (Can the student examine and diagnose the photosynthetic program of mothers in the animal field).
- 3- Critical thinking strategy in learning. Critical Thinking is a term that symbolizes the highest levels of thinking, which aims to pose a problem and then analyze it logically to reach the desired solution.
- 4- A logical discussion strategy to reach the desired results
- 5- Training on educational commitment inside the classroom and in laboratories or the field to ensure good behavior within the educational institution

10. Evaluation methods

- Theoretical tests
- 2 practical tests
- 3 Reports and studies
- 4 daily exams
- 5 monthly exams
- 6 Summer training in government departments and submitting a training report

11. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)		Number of the teaching staff	
	General	Special			Staff	Lecturer
Professor	Animal Production	Poultry Nutrition			1	
Professor	Animal Production	Poultry Physiology			1	
Assistant Professor	Animal Production	Poultry Nutrition			1	
Assistant Professor	Animal Production	Poultry products technology			1	
Assistant Professor	Animal Production	Poultry Breeding			1	
Assistant Professor	Animal Production	Animal Physiology			1	
Assistant Professor	Science	Animal Physiology			1	
lecturer	Animal Production	Poultry Nutrition			1	
lecturer	Animal Production	Poultry Physiology			2	
lecturer	Animal Production	Animal Physiology			1	
Assistant lecturer	Animal Production	Animal Production			5	
Assistant lecturer	Arabic Language	Arabic Language			1	

Professional Development

Mentoring new faculty members

Holding periodic Department Council meetings twice a week to convey the directives of the Dean of the College as well as the directives of the Department Head regarding department matters, following up on students and the progress of the educational process, as well as encouraging them for scientific research, in addition to communicating with faculty members through social media.

Professional development of faculty members

Developing annual plans to update course curricula through the department's Curriculum Modernization Committee and preparing a semi-annual plan for the research that the department's staff seeks to accomplish, as well as using modern teaching and evaluation methods by employing contemporary communication technology.

12. Acceptance Criterion

The department sets a student admission plan based on the capacity, the number of teaching staff, and the availability of academic supplies. On this basis, the department requests the numbers required for enrollment, with the statement that the number of students accepted into the college determines the required number and those distributed through central admission in the Ministry, as well as the desire of the student in Choose the specialty you want.

13. The most important sources of information about the program

- Methodical books on free education
- Scientific websites on the Internet
- Reference books, master's theses, and doctoral dissertations available in the department library and the college library

14. Program Development Plan

- Concluding cooperation agreements with relevant agricultural institutions for the purpose of creating job opportunities for graduates of the Animal Production Department, in addition to providing those institutions with the results of scientific research reached by researchers in the department.
- Taking advantage of agricultural companies in the private sector to utilize their capabilities to enhance the student learning process as well as create job opportunities for graduates
- Providing the department's laboratories with modern laboratory equipment and benefiting from them to supplement the department's financial inputs by operating those laboratories to serve agricultural institutions and private sector companies after paying the financial fees.
- Increasing the rate of scientific publishing by the department's faculty, especially in solid scientific journals that are classified within international collections.
- Providing the department's staff with scientific specializations, including teachers, by creating attractive factors for them and working to encourage them to seek academic promotions to higher ranks.

Program Skills Outline															
				Required program Learning outcomes											
Year/Level	Course Code	Course Name	Basic or optional	Knowledge				Skills				Ethics			
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4
First year first semester	ANCH111	Analytical Chemistry	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRSO112	Principles of Soil Sciences	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRPL113	Principles of Plant Protection	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRAN114	Principles of Animal Production	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	SURE115	Surveying Esplanade	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	HUMR116	Human Rights	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	COMA117	Computer Applications1	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	ENGL118	English Language 1	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	ARAL119	Arabic Language	Basic	*	*	*	*	*	*	*	*	*	*	*	*
First year second semester	ORCH121	Organic Chemistry	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRFC122	Principles of Field Crops	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRST123	Principles of Statistics	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRPO124	Principles of Poultry	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	MATH125	Mathematics	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	GENZ126	General Zoology	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	COMA127	Computer Applications2	Basic	*	*	*	*	*	*	*	*	*	*	*	*
Second year first semester	BIOC211	Biochemistry	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	HELA212	Health of Animal Productions	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRFI213	Principles of Fish	Basic	*	*	*	*	*	*	*	*	*	*	*	*

	PSHO214	Principles of Horticulture	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRAE215	Principles of Agricultural Extension	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRMI216	Principles of Microbiology	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	MECA217	Mechanization of Animal Production	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	COMA218	Computer Applications 3	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	BAPC219	Baath Party Cram in Iraq	Basic	*	*	*	*	*	*	*	*	*	*	*	*
Second year second semester	GENE221	Genetics	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	FOPC222	Fodder & Pasture Crops	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	FIPR223	Fish Production & Husbandry	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRDA224	Principles of Dairy Science	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	PRAE225	Principles of Agricultural Economy	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	RRED226	Freedom & Democracy	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	COMA227	Computer Applications 4	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	ENGL228	English Language 2	Basic	*	*	*	*	*	*	*	*	*	*	*	*
Third year first semester	ANPH311	Animal Physiology	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	HAMA312	Hatching & Hatcher Management	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	ANIN313	Animal Nutrition	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	ECAP314	Economy of Animal Production	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	ANEB315	Animal Ecology & Behavior	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	EXPD316	Experiment Design & Analysis	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	VETM317	Veterinary Medicine Insect	Basic	*	*	*	*	*	*	*	*	*	*	*	*
Third year	PHYP321	Physiology of Poultry	Basic	*	*	*	*	*	*	*	*	*	*	*	*
	TECP322	Technology of Poultry Production	Basic	*	*	*	*	*	*	*	*	*	*	*	*

second semester	FODD323	Fodder & Diets	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	ANID324	Animal disease	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	ANIB325	Animal Breeding	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	PHYR326	Physiology of Reproduction	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	ENGL327	English Language 3	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
Fourth year first semester	POUN411	Poultry Nutrition	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	POUB412	Poultry Breeding	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	SHGP413	Sheep & Goat Production	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	MEAP414	Meat Production	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	POUM415	Poultry Production & management	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	MAPA416	Manage pastures	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	RESP417	Research Project	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
Fourth year second semester	POUD421	Poultry disease	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	MOLL422	Molecular Life Science	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	MILC423	Milk Cattle Production	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	MEAS424	Meat Science	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	PROB425	Production of Buffalo	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	SEMI426	Seminar	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	RESP427	Research Project	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*
	ENGL418	English Language 4	Basic	*	*	*	*	*	*	*	*	*	*	*	*	*

* Please tick the boxes corresponding to the individual program learning outcomes under evaluation

Course Description Form

1. Course Name:					
Analytical Chemistry					
2. Course Code:					
ANCH111					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
2023-3-28					
5. Available Attendance Forms:					
8-3-2024					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 hours			3 units		
7. Course administrator's name (mention all, if more than one name)					
Name: Assistant prof :Nahla kamal asaad					
Email: a.p.nahlaasaad@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives					
Teaching the student on the reception (acceptance/receipt development of the student's ability to respond. Valuing					
9. Teaching and Learning Strategies					
Strategy		<ul style="list-style-type: none"> Preparing a student with a brief knowledge of the basic principles on analytical chemistry and their direct relevance. Mission... 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Definition of the student the science of analytical chemistry Definition of importance of quantitative chemistry	the science of analytical chemistry Definition of importance of quantitative chemistry and	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
2	2	Definition. Laws For Worship With Matter	For Worship With Matter	=	=
3	2	Student definition of Ka the method of estimating curves	Ka and the method estimating the curves correction with matters	=	=
4	2	Student's definition of balance, hydrolysis theor	ion balance, hydroly theories and pH for ac bases	=	=

5	2	Define the student on methods of measuring and the Ph device v detailed...	the methods of measuring pH and the Ph device v detailed...	=	=
6	2		First exam	=	=
7	2	Student definition sedimentary debris touching on the Moore,	sedimentary debris touching on the Moore,	=	=
8	2	Student definition of weight analysis, oxidation swabs, reductions, oxidation evidence	weight analysis, oxidation swabs, reductions, oxidation evidence and reductions v issues of...	=	=
9	2	The student's definition automated analysis identification of Lambert Law -per	automated analysis identification of Lambert Law -per and spectrometric device with matters.	=	=
10	2	Student Definition	Bever Solutions...	=	=
11	2	Student Definition Weight Analysis	Weight Analysis	=	=
12	2	Identification Way Moore Fulhard and Fagen	Way Moore, Fulhard Fagen	=	=
13	2	The student's definition explaining evidence of acid and rules	explaining evidence of acid and rules with multiple issues resolved on all topics above	=	=
14	2	Define the student on methods of measuring and the Ph device	the methods of measuring and the Ph device	=	=
15	2	exam			

11. Course Evaluation

1- Theoretical tests

2- Practical tests

3- Reports and studies

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)

Main references (sources)

Analytical Chemistry

Recommended books and references (scientific journals, reports...)

Electronic References, Websites

<https://www.for9a.com/courses/%D8%>

Course Description Form

1. Course Name:					
Principles of soil science					
2. Course Code:					
PRSO112					
3. Semester / Year:					
First Semester / First Year					
4. Description Preparation Date:					
1/4/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) hours (2) hours for the theoretical part and (3) hours for the practical part, the number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Prof. Dr. Dalshad Rasool Azeez Email: dr_dalshad@uokirkuk.edu.iq Assist. Lecturer.Noorjan Essmat Noori essmat.noorjan@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives					
1- Introducing the student to the role of each component of the soil in the development of the soil. 2- Knowledge of soil formation factors and processes. 3- The importance and role of agricultural soil.					
9. Teaching and Learning Strategies					
Strategy		The course includes the concepts of the soil and its main components, soil factors and processes, and the study of its physical properties (soil structure - soil texture - bulk and real density - porosity - soil color - soil temperature - soil air) and chemical properties (soil solution - acidity - salinity - organic matter content - fertility)			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Cognitive	Soil concepts and main soil components	Lecture	Daily and monthly exam, reports
2	5	Cognitive	Rock weathering / soil formation factors and processes	Lecture	=
3	5	Cognitive	Main soil horizons / profile and soil pedoun	Lecture + Field Visit	=

4	5	Cognitive	Physical properties of soil / soil texture	Lecture + Laboratory	=
5	5	Cognitive	Soil construction (soil structure)	Lecture + Laboratory	=
6	5	Cognitive	Soil Water/Water Constants/Physics Classification of Soil Water	Lecture + Laboratory	=
7	5	Cognitive	Bulk and particale density of soil - porosity	Lecture + Laboratory	=
8	5	Cognitive	Soil color/soil air/soil temperature	Lecture + Laboratory	=
9	5	Cognitive	Chemical properties of soil / soil solution / degree of soil reaction	Lecture + Laboratory	=
10	5	Cognitive	Cationic exchange capacity/base saturation ratio	Lecture	=
11	5	Cognitive	Soil colloids/absorption and adsorption	Lecture	=
12	5	Cognitive	Soil salinity and reclamation of soils affected by salts	Lecture + Laboratory	=
13	5	Cognitive	Soil fertility and plant nutrition	Lecture + Laboratory	=
14	5	Cognitive	Organic soil matter	Lecture + Laboratory	=
15	5	Cognitive	Biological properties of the soil	Lecture + Laboratory	=

11. Course Evaluation

The degree of quarterly pursuit of (40%) distributed (5) degrees for daily preparation, participation and reporting, and (25) degrees of theoretical monthly exams by two monthly exams, and (10) degrees of practical monthly exams by two monthly exams and the final exam score of (60%) distributed (40) degrees for the theoretical part and (20) degrees for the practical part.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Principles of Soil Science - authored by Dr. Abdullah Najm Al-Ani 1980 Al-Bashour,
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International magazines within Scopus containers

Course Description Form

1. Course Name:					
Plant Protection					
2. Course Code:					
PRPL113					
3. Semester / Year:					
Second semester/second year					
4. Description Preparation Date:					
29/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: MOHAMMED ALBAYATI E-mail albayatiiu@uokirkuk.edu.iq					
8. Course Objectives					
The course aims to familiarize itself with the science of plant protection and the most important methods of combating it					
9. Teaching and Learning Strategies					
Verbal communication with students and motivation for teamwork in the learning process and use of communication skills...					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Introduction to the science	Introduction to the science of prevention of plants from insects	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
2	5	Insect feeding methods	Insect feeding methods and factors that helped its survival	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
3	5	reproductive methods	Insect reproductive methods	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
4	5	resistance	Insects resistance	Lecture, presentations	Verbal, editorial, daily and monthly

				and interactive discussion	tests and scientific reports
5	5	Economic and important	Economic and important factors in Iraq	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
6	5	ferrets	Ferrets damage	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
7	5	First Examination		Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
8	5	Pests	Economic importance for Pests	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
9	5	Definitions terms	Definitions of phytosanitary terms	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
10	5	Pathogens of parasitic	Pathogens of parasitic plants	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
11	5	Non-parasitic pathogens	Non-parasitic pathogens	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
12	5	Methods of spreading	Methods of spreading plant diseases	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

13	5	Methods of resistance	Methods of resistance plant diseases	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
14	5	biological control	biological control	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports
15	5	Final Examination	Final Examination	Lecture, presentations and interactive discussion	Verbal, editorial, daily and monthly tests and scientific reports

11. Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Plant Disease Plant Entomology
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Principles of Animal Production					
2. Course Code:					
PRAN114					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
2024-3-29					
5. Available Attendance Forms:					
mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5Hours / 3 Unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Mohammed Madhi Zinalabidin					
Email: mehmetmadhi@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives	<p>The student gets to know the basic principles of animal production through a brief knowledge of:</p> <p>The course aims to teach the student how to care for farm animals as well as carry out field operations</p> <p>Introducing the student to numbering animals, making animal records, and providing fodder</p> <p>caring for newborn animals</p>				
9. Teaching and Learning Strategies					
Strategy	<p>Preparing a student with a brief knowledge of the basic principles of animal production through a brief knowledge of:</p> <ul style="list-style-type: none"> • The economic importance of wealth as well as the identification of products, eggs and breeding Sheep, cattle and buffalo. 				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Recognize the economic importance Livestock and their relationship With economic integration And the future potential for expanding livestock production in	Economic importance Livestock and their relationship With economic integration And the future potential for expanding livestock production in this wealth	Lecture, demonstrations and interactive discussion	Oral and written tests, daily and monthly practical tests, and scientific reports

		this wealth			
2	2	Identify the location of agricultural animals (livestock) in the animal kingdom	Agricultural animals (livestock) in the animal kingdom	=	=
3	2	Identifying cows and buffalo - economic importance - international, Arab and local species	Cows and buffalo - economic importance international, Arab and local species	=	=
4	2	Learn about the management and care dairy cows, beef cows and dual-purpose cows	Management and care dairy cows, beef cows and dual-purpose cows	=	=
5	2	Exam	Exam	=	=
6	2	Getting to know the buffalo: economic importance – origin of the buffalo – distribution in the world – production	Economic importance origin of the buffalo – distribution in the world – production	=	=
7	2	Identifying sheep and goats – methods of classifying them and some international types	Sheep and goats – methods of classifying them and some international types	=	=
8	2	Identifying local species (sheep and goats) and establishing a sheep herd	local species (sheep and goats) and establishing a sheep herd	=	=
9	2	Identifying poultry and its economic importance - and the origins from which it was bred - and classifying poultry in the world	Poultry and its economic importance - and the origins from which it was bred - and classifying poultry in the world	=	=
10	2	Exam	Exam	=	=
11	2	Learn about egg production and meat production	Egg production and meat production	=	=
12	2	Learn about poultry management and care - nutrition - fodder	Poultry management and care nutrition - fodder –	=	=

		physiology, reproduct and artificial insemination	physiology, reproduction and artificial insemination		
13	2	Identifying fertilization pregnancy and birth in cows	Fertilization, pregnancy and birth in cows	=	=
14	2	Learn about field operations in dairy and beef cow fields	field operations in dairy and beef cow fields	=	=
15	2	Identify improvement Genetics of farm animals- Camel horses (origin types - Education methods)	Genetics of farm animals- Camel horses (origin types - Education methods)	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	Principles of Animal Production” written by: Dr. Muhammad Ali Makki
Electronic References, Websites	

Course Description Plane surveying

1. Course Name:					
Principle of plane and Topographic Surveying					
2. Course Code:					
SURE115					
3. Semester / Year:					
Second semester/first year					
4. Description Preparation Date:					
2/04/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr. Ali hakeem dohan Email: Alihakeem @uokirkuk.edu.iq					
8. Course Objectives					
<p>Introducing the student to the general basics of surveying and preparing him so that he has the ability to manage surveying technicians and engineers working on civil projects. Introducing the student to using some surveying devices, such as the Level device and the Theodolite device, so that he can perform the simple surveying work he needs in civil works, such as measuring levels or measuring a specific angle. Giving the student priorities for advanced surveys, such as surveying roads and measuring coordinates. This enables the student, if he wishes, to develop his capabilities in the future through courses or study so that he can be a professional surveyor and perform advanced surveying work.</p> <p>Giving the student the basic principles of surveying, training him on the use of surveying tools, and acquiring the following skills:</p> <ul style="list-style-type: none"> Introduction to various surveying sciences Using modern surveying equipment to obtain meteorology Calculating coordinates and determining locations 					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Definition of space, its types, branches and how it develops	knowledge	lecture	Daily and monthly exam, attendance and reports
2	5	Basic principles of space	knowledge	lecture	Daily and monthly exam, attendance and reports

		Units of measurement (its parts, multiples)			
3	5	scale, (types, methods of application)	knowledge	lecture	Daily and monthly exam, attendance and reports
4	5	Surveying using the measuring wheel (on the map and on the ground)	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	5	Longitudinal measurements and longitudinal measuring tools	knowledge	lecture	Daily and monthly exam, attendance and reports
6	5	Scanning with tape	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	5	Cadastral errors, their types and sources	knowledge	lecture	Daily and monthly exam, attendance and reports
8	5	Methods for measuring horizontal distances directly Knowing the obstacles that prevent measurement	knowledge	lecture	Daily and monthly exam, attendance and reports
9	5	Methods of dropping columns	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	5	Methods of indirect measurement through a device Settlement	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	5	Distance whiskers method and shadow method	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	5	Anvar method	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	5	Settlement methods	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	5	Topographical area	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	5	Application of measuring distances using theodolite	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The goals can be summarized through the following points:

1. Establishing the required locations on the ground based on known points

2. Identify and determine the locations of agricultural lands and their heights above sea level
- . 3. Finding land areas according to their types directly or through maps
- . 4. Giving an idea about water resources and their distance from agricultural lands
- . 5. Assist in designing irrigation and drainage networks and constructing dams and water tanks
6. Planning the locations of agricultural roads of all types and the boundaries of forest divisions
7. Determine the types and densities of vegetation cover in different areas using aerial photographs and remote sensing methods
8. Providing the necessary information for constructing agricultural buildings
9. Providing the necessary information for making contour lines, terraces, and corrugations on slopes
10. Assist in determining the boundaries of soil units when classifying lands.

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Principle of plane and Topographic Surveying written by Dr. Riad Saleh Al-Khafaf
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:

Human Rights and Democracy

2. Course Code:

HURD116

3. Semester / Year:

first semester/first year

4. Description Preparation Date:

28/03/2024

5. Available Attendance Forms:

Mandatory

6. Number of Credit Hours (Total) / Number of Units (Total)

(2) Hours, Number of units (2)

7. Course administrator's name (mention all, if more than one name)

Name: Assist Prof. Basira Abdullah Ahmed **Email:** baseraabdullah@uokirkuk.edu.iq

8. Course Objectives

To make the student able to recognize human rights in internal laws and international charters, and to become familiar with the concept of democracy, the various systems of elections, and the means of assigning authority

9. Teaching and Learning Strategies

Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The historical stages through which the idea of human rights passed	Knowledge	lecture	Daily and monthly exam, attendance and reports
2	2	Humanrights in constitutional documents International human rights documents	Knowledge	lecture	Daily and monthly exam, attendance and reports
3	2	Human rights in Islamic law are political and social, and the state's responsibility to guarantee them is positive e right to life, the right to physical integrity, the right to privacy,	Knowledge	lecture	Daily and monthly exam, attendance and reports
4	2	The right to nationality right to abolish slavery and slavery The right to self-determination	Knowledge , skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	2	Guarantees to prevent attacks on human rights	knowledge	lecture	Daily and monthly exam, attendance and reports

6	2	1-Human rights guarantees in Islamic law	Knowledge , skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	2	the right to movement Intellectual rights and freedoms	knowledge	lecture	Daily and monthly exam, attendance and reports
8	2	The concept of freedom, the concept of anarchy, the concept of democracy, the historical development of the concept of democracy in the Mesopotamian civilization	knowledge	lecture	Daily and monthly exam, attendance and reports
9	2	The pillars of democracy, the basic conditions of the democratic system and its characteristics	Knowledge , skill	lecture	Daily and monthly exam, attendance and reports
10	2	Features of the democratic system, types of democracy	Knowledge , skill	lecture	Daily and monthly exam, attendance and reports
11	2	Forms of the system: indirect democracy, democracy, its concept, and manifestations	Knowledge , skill	lecture	Daily and monthly exam, attendance and reports
12	2	Different systems of elections	Knowledge , skill	lecture	Daily and monthly exam, attendance and reports
13	2	Democracy applications	Knowledge , skill	lecture	Daily and monthly exam, attendance and reports
14	2	Civil,society,democratic values and its functions	Knowledge , skill	lecture	Daily and monthly exam, attendance and reports
15	2	The report on human rights in Islam comprehended and surpassed all hypothetical trends, ancient and modern	Knowledge , skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Human Rights and Democracy / Dr. Ghassan Karim Majhab, Amjad Zein Al-Abidin Tohm
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including
Electronic References, Websites	International journals .

Course Description Form

1. Course Name:					
Computer/1					
2. Course Code:					
COMA117					
3. Semester / Year:					
second semester/ second year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(3) Hours, Number of units (1)					
7. Course administrator's name (mention all, if more than one name)					
Name: Assist Prof. Basira Abdullah Ahmed Email: baseraabdullah@uokirkuk.edu.iq					
8. Course Objectives					
Introducing the student to the components of the computer, explaining the units of information input and graduation, and providing and developing the student's abilities by using the main applications in the computer					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Identifying the computer and its parts, turning the computer on/off	Knowledge	lecture	Daily and monthly exam, attendance and reports
2	3	Computer parts, input/output units, memory, central processing unit	Knowledge	lecture	Daily and monthly exam, attendance and reports
3	3	Central Processing Unit (C.P.U), main functions, motherboard (M/B) and how to communicate with computer parts	Knowledge	lecture	Daily and monthly exam, attendance and reports

4	3	Input units (mouse/keyboard), output units (Monitor), memory (RAM, ROM)	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	3	Secondary memory, hard disk parts, how to store information on the disk, information about the disk	knowledge	lecture	Daily and monthly exam, attendance and reports
6	3	Introduction to the operating system (Windows), application software	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	3	Practical exam (1)	knowledge	lecture	Daily and monthly exam, attendance and reports
8	3	Windows - use the mouse, minimize/maximize windows - close windows, close windows, exit windows	knowledge	lecture	Daily and monthly exam, attendance and reports
9	3	Moving windows from one place to another, controlling window size (width/height), taskbar - date, time	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	3	Organizing the address list - Copying images and texts - Splitting web pages - Printing web pages - Search engines - How to search for information on the network - Using the search button in the toolbar -	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	3	MY COMPUTER Desktop, Create a shortcut icon for an application or file, Recycle Bin - Window Explorer,	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

		Format floppy disks			
12	3	Install files - select/choose folder, create folder - rename, delete file/folder, copy file/folder, move file/folder	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	3	Screen settings - screen saver, change mouse cursor - double transfer speed control	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	3	Software Installation and Uninstallation, Disk Information, Help Request) HELP	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	3	Practical exam (1)	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11. Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Basic Principles of Computers/Magdi Abdullah Al-Wahdi/ Fourth Edition 2019
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including
Electronic References, Websites	International journals .

Course Description Form

1. Course Name:					
English language 1 / beginner level					
2. Course Code:					
ENGL118					
3. Semester / Year:					
First semester/first year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
1 hour					
7. Course administrator's name (mention all, if more than one name)					
Name: Berevan Qader Omar Email: beree.omer@gmail.com					
8. Course Objectives					
Teaching this curriculum aims to make the student familiar with the English language as an international language that help the student get benefits from it in his scientific life widely .					
9. Teaching and Learning Strategies					
It is a semi-integrated curriculum for the beginner level that includes the necessary basics for learning English language in a simplified way with exercises. It includes nouns, verbs, interrogatives, adjectives, and adverbs.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Introduction to part of speech in English	Knowledge	lecture	Exercise
2	1	Nouns in English	Knowledge	lecture	Exercise
3	1	Singular and plural	Knowledge	lecture	Exercise
4	1	Question words	Knowledge	lecture	Exercise
5	1	Tense of verbs	Knowledge	lecture	Exercise
6	1	Present simple for beginner	Knowledge	lecture	Quiz
7	1	Present continuous for beginner	Knowledge	lecture	Exercise
8	1	Past simple for beginner	Knowledge	lecture	Exercise
9	1	Past continuous for beginner	Knowledge	lecture	Exercise

10	1	adjectives	Knowledge	lecture	quiz
11	1	Pronouns	Knowledge	lecture	quiz
12	1	adverbs	Knowledge	lecture	Exercise
13	1	Adverb of frequency	Knowledge	lecture	Exercise
14	1	Some & any	Knowledge	lecture	Exercise
15	1	Modal verbs	Knowledge	lecture	Quiz

11.Course Evaluation

Semester endeavor (40 marks): 15 marks for the first month exam + 5 marks for quiz
15 marks for second month exam + 5 marks for quiz
Final exam (60 marks)

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	New headway plus (beginner student book written by : john and liz soars
Main references (sources)	Cambridge press
Recommended books and references (scientific journals, reports...)	My English library website
Electronic References, Websites	You tube and some useful websites

Course Description Form

1. Course Name:					
General Arabic language					
2. Course Code:					
ARAL108					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
3/4/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 hours/2 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Hemin Khorshid Saeed			Email: hymnsaeed@uokirkuk.edu.iq		
8. Course Objectives					
The course aims to know the parts of speech and what is related to them in terms of signs. It also aims to help student prepare to write a scientific research paper, as well as help him learn Arabic topics					
9. Teaching and Learning Strategies					
Make the student able to know the Arabic language, which includes the most important topics that help the student to prepare accurate scientific research and help the student to know common errors in official books.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1-	2	Definition of speech and its types, then definition of the noun, verb, and letter with their characteristics	Sections of speech and what is related to it in terms of Tags	Lecture and discussion	Oral and written tests
2-	2	Definition of the sentence, then explaining the minor and major sentences and the relationship between them	Sections of nominal and verbal sentences	Lecture and discussion	Oral and written tests
3-	2	Define hamza and then begin to explain its divisions	Write the hamza correctly	=	Oral and written tests
4-	2	Definition of dha and dha and explaining the rules of difference between them	The difference between dha and dha	=	=
5-	2	Explaining the signs of the embossed and bound tā', then explaining the qirq between them	The difference between the fatha and marbuta tā'	=	=
6-	2	Explaining the correct writing of numbers in terms of masculine and feminine	Numbers in the Arabic language	=	=

7-	2	Explaining the number of punctuation marks and how to use them in sentences	punctuation marks	=	=
8-	2	Correct writing of words that are repeated over and over in official books	Correction of incorrect words	=	=
9-	2	Explaining the virtue of vowels in the Arabic language and their effect on the meaning of words in sentences	Use movements correctly	=	=
10-	2	Correct words that are used incorrectly	Say and don't say	=	=
11-	2	Definition of the dual and explaining its conditions	Al-Muthanna is his verse	=	=
12-	2	Definition of plural and types of plural in Arabic and the work of each of them	Plural and its divisions in Arabic	=	=
13-	2	Defining that its sisters and its function in the sentence and explaining its meanings	Anne and her sisters	=	=
14-	2	Work on Kan and her sisters, then explaining the number of her sisters in the Arabic language	was and her sisters	=	=
15-	2	Defining the verbs of the Sharia and then explaining their knowledge in the sentence	Initiation verbs in Arabic	=	=

11.Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12.Learning and Teaching Resources

General Arabic language	Human rights, children and democracy
Main references (sources)	Human rights in Islamic law and international law - Human rights and their guarantees, public freedoms and human rights
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Model description of the decision

1. Name of Rapporteur					
Organic chemistry					
2. Symbol of decision					
ORCH111					
3. Chapter/year					
Second semester/second year					
4. Date of preparation of this description					
28/03/2024					
5. Forms of presence available					
Mandatory					
6. Number of hours (total)/ number of units (total)					
(5) hours of (2) hours for the theoretical part and (3) hours for the practical part, number of units (3)					
7. Name of the course administrator (if more than one name is mentioned)					
Name: M.; Memorial of Thikra Ahmad Hassan e-mail: thikra.ahmed@uokirkuk.edu.iq					
8. Objectives of the decision					
Organic chemistry of the second stage deals with the study and determination of physical constants of organic compounds such as the degree of fusion, boiling and others and knowledge of how to purify the organic compound by laboratory methods and how to separate compounds from each other and detect the unknown organic compound by color methods has been interacted between the practical and theoretical aspect of the student to benefit from the greatest amount of information					
** Knowledge of this area					
9. Teaching and learning strategies					
1- describe methods of assigning physical constants to organic compounds such as the degree of fusion					
** And boiling. 2- Describe the general methods of purification					
3 - Study and identify methods of separation and detection of the unknown organic compound					
.1.					
The Week	Hourse	Required learning outcomes	Name of unit or subject	Way of learning	Method of assessment
1		Knowledge	Definition of organic chemistry, its importance and the types of interactions used in it	Lecture	Daily and monthly exam, attendance and reports
2		Knowledge	Study of alkane-saturated hydrocarbon compounds	Lecture	Daily and monthly exam, attendance and reports
3		Knowledge	Study of unsaturated alkene hydrocarbon compounds	Lecture	Daily and monthly exam, attendance and reports

4		Knowledge and skill	Study of saturated and unsaturated hydrocarbon compounds	Student groups	Daily and monthly exam, attendance and reports
5		Knowledge	Study of non-alkene hydrocarbon compounds	The lecture	Daily and monthly exam, attendance and reports
6		Knowledge and skill	Study of aromatic hydrocarbon compounds	Lecture	Daily and monthly exam, attendance and reports
7		Knowledge	The first month exam	Lecture	Daily and monthly exam, attendance and reports
8		Knowledge	** Alcohol and methods of preparation	Lecture	Daily and monthly exam, attendance and reports
9		Knowledge and skill	** Phenols have their properties and methods of preparation	Lecture+	Daily and monthly exam, attendance and reports
10		Knowledge and skill	Reactions of alcohol and phenols	Lecture	Daily and monthly exam, attendance and reports
11		Knowledge and skill	Aldehydes have their properties and methods of preparation	Lecture	Daily and monthly exam, attendance and reports
12		Knowledge and skill	Ketones have their properties, methods of preparation and reactions of aldehydes and ketones	Lecture	Daily and monthly exam, attendance and reports
13		Knowledge and skill	Second month exam	Lecture	Daily and monthly exam, attendance and reports
14		Knowledge and skill	Carboxylic acids have their properties and methods of preparation	Lecture	Daily and monthly exam, attendance and reports
15		Knowledge and skill	The Secretary and the effective group	Lecture	Daily and monthly exam, attendance and reports

11.Evaluation of the decision

Quarterly pursuit score of (40%) distributed (10) scores for daily preparation, participation and reporting, and (30) monthly exam score of two monthly exams per exam (15) score, and the final exam score of (60%)

12.Sources of learning and teaching

Lectures prepared by the teacher based on the relevant books and references.	Required books (methodology, if any)
General organic chemistry Dr. Ahmad Fathi Sayed Ahmed	Principal references (sources)
Iraqi academic scientific journals, including the Journal of Kirkuk University of Science	Recommended books and supporting references (scientific journals, reports...)
International magazines within the Scopas absorbers	Electronic references, Internet sites

Course Description Form

1. Course Name:					
Field crop management					
2. Course Code:					
PRFC122					
3. Semester / Year:					
Second semester/ first year					
4. Description Preparation Date:					
1/4/2024					
5. Available Attendance Forms:					
Attendance at lecture is mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 Hours (2 hours theory , 3 hours practical per week) - Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr.abbas Abdulla taha \ Email: abbasabdulla@uokirkuk.edu.iq					
8. Course Objectives					
Providing agricultural staff specialized in applied agricultural sciences, especially in the field of field crop sciences, who can create job opportunities in the private agricultural sector and begin performing the task without waiting for job opportunities to be provided for them in state institutions.					
9. Teaching and Learning Strategies					
-follow the lecture methods and use modern presentation methods -direct dialogue with student by asking them questions -Assigning student to homework (writing scientific reports)					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Cognitive	Learn about the basics of field crop science	Lecture Discussion	Daily attendance and exam
2	5	Cognitive	*Dividing field crops *Advantages of the soil and climate of Iraq	Lecture Discussion	Daily attendance and exam
3	5	Cognitive	Environmental factors affecting the growth of field crops -Heat factor	Lecture Discussion	Daily attendance and exam
4	5	Cognitive	Soil service operations	Visit the fields	Daily attendance and exam
5	5	Cognitive	The relationship of water to field crops	Lecture Discussion	Daily attendance and exam

6	5	Cognitive	Water and land relationships of plants	Lecture Discussion	Daily attendance and exam
7	5	Cognitive	Light and its relationship to crop growth	Lecture Discussion	Daily attendance and exam
8	5	Cognitive	Weeds and ways to combat them	Lecture Discussion	Daily attendance and exam
9	5	Cognitive	Crop service operations	Visit the fields	Daily attendance and exam
10	5	Cognitive	Life factors and their impact on crop production	Lecture Discussion	Daily attendance and exam
11	5	Cognitive	Plant seeds and factors affecting them	Lecture Discussion	Daily attendance and exam
12	5	Cognitive	Agricultural pests that affect field crops	Lecture Discussion	Daily attendance and exam
13	5	Cognitive	Tools used to control agricultural pests	Lecture Discussion	Daily attendance and exam
14	5	Cognitive	Processes of collecting, purifying and storing crop products	Lecture Discussion	Daily attendance and exam
15	5	Cognitive	Harvesting, storing and drying plants	Lecture Discussion	Daily attendance and exam

11. Course Evaluation

Final theoretical exam	Final practical test	Daily theoretical tests	Practical semester tests	Theoretical semester tests
40	20	5	15	20

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Principles of field crops / Dr. Majeed Mohsen Al-Ansari Dr. Abdul Majeed Ahmed Al-Younes, Dr. Ghanem Saadallah Hasawi, and Dr. Wafqi Shaker Al-Shammaa
Main references (sources)	Scientific journals in agricultural and economic specialties
Recommended books and references (scientific journals, reports...)	International journals within international classifications and standards
Electronic References, Websites	International journals within international classifications and standards

Course Description Form

1. Course Name:					
Principles of Statistics					
2. Course Code:					
PRST213					
3. Semester / Year:					
First semester/second year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
Theory=(2) Hours & Practical = (3) Hours , Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr. Salah Jasim Amin Email: dr.salahjasim@uokirkuk.edu.iq					
8. Course Objectives					
The course aims to introduce students to the principles of statistics and its types, how to display tables and graphical representation of data, as well as to identify the most important statistical methods used (measures of central tendency and dispersion, etc.) and to make the student able to use different statistical methods correctly to solve statistical problems, as well as to analyze data statistically					
9. Teaching and Learning Strategies					
Explanation and clarification lecture method student groups.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	knowledge	Introduction to statistics, its definition, and its divisions	lecture	Exam
2	5	knowledge	The nature of statistical data and symbols	lecture	Exam
3	5	Knowledge & skills	Tabular display and graphical representation	lecture	Exam
4	5	Knowledge & skills	Tabular display and graphical representation	lecture	Exam

5	5	Knowledge & skills	measures of central tendency (arithmetic mean and harmonic mean) for ungrouped data and classified data	lecture	Exam
6	5	Knowledge & skills	measures of central tendency (median, mode) for ungrouped data and classified data	lecture	Exam
7	5	Knowledge & skills	measures of central tendency (geometric mean, square mean) for ungrouped data and classified data	lecture	Exam
8	5	Knowledge & skills	Measures of absolute dispersion (range, mean deviation)	lecture	Exam
9	5	Knowledge & skills	Measures of absolute dispersion (variance, standard deviation)	lecture	Exam
10	5	Knowledge & skills	Measures of relative dispersion: (coefficient of variation)	lecture	Exam
11	5	Knowledge & skills	Torsion measures and oblate measures	lecture	Exam
12	5	Knowledge & skills	Hypothesis testing	lecture	Exam
13	5	Knowledge & skills	t distribution	lecture	Exam
14	5	Knowledge & skills	Chi-square distribution	lecture	Exam
15	5	Knowledge & skills	Simple regression and correlation	lecture	Exam

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Introduction to Statistics, written by Dr. Khasha Mahmoud Al-Rawi (1989)
Main references (sources)	Introduction to descriptive statistics, written by Prof. Dr. Muhammad Ahmed Shalabi
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals
Electronic References, Websites	Different sites on the Internet

Course Description Form

1. Course Name:					
Principles of Poultry					
2. Course Code:					
PRPO124					
3. Semester / Year:					
quarterly					
4. Description Preparation Date:					
2024/4/3					
5. Available Attendance Forms:					
mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 hours/3 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Name: dr.Qana huseein ameen AL-Jabari					
Email: dr_qanaameen@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives	<ul style="list-style-type: none"> The student learned about the basic principles of poultry science through a brief knowledge of: Organ installation and functions of vital poultry devices, inheritance of poultry, poultry diseases. Poultry residences, meat broiler breeding, whiteness, rumi, biosecurity 				
9. Teaching and Learning Strategies					
Strategy	Preparing a student with a brief knowledge of the basic principles of poultry science through a brief knowledge of: Organ installation and functions of vital poultry devices, inheritance of poultry, poultry diseases. Poultry residences, meat broiler breeding, whiteness, rumi, biosecurity				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Find an introduction Iraq's poultry industry ; the world	Introduction to poultry industry in I and the world	Lecture, demonstrations and interact discussion	
2	5	Recognize the light ; biological devices chickens and their v functions	Structure of organs ; biological systems chickens and their v functions	=	=
3	5	Recognition inheritance in birds	Genetics in birds	=	=
4	5	Identification spawning ; management of spoiled	Hatching and hatch management	=	=
5	5		examination		

6	5	Recognize the breeding of meat broilers	Breeding broilers	=	=
7	5	Learn about raising laying hens	Raising laying hens	=	=
8	5	Learn about the principles of bird feeding	Principles of bird feeding	=	=
9	5	Identify poultry housing	Poultry housing	=	=
10	5		examination		
11	5	Identify poultry diseases	Poultry diseases	=	=
12	5	Identify nutritional deficiency diseases	Nutritional deficiency diseases	=	=
13	5	Learn about biosecurity to prevent disease	Biosecurity – to prevent disease	=	=
14	5	Learn about raising turkeys and waterfowl	Raising turkeys and waterfowl	=	=
15	5	Learn about slaughterhouses and product marketing	Slaughterhouses and product marketing	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Poultry books (poultry physiology, nutritional diseases, breeding and improvement)
Recommended books and references (scientific journals, reports...)	Arabic Poultry Books Syriavet
Electronic References, Websites	Arabic Poultry Books Syriavet

Course Description Form

1. Course Name:	
Mathematics 1	
2. Course Code:	
MATH125	
3. Semester / Year:	
1 st semester 2023–2024	
4. Description Preparation Date:	
31/3/2024	
5. Available Attendance Forms:	
Classroom attendant	
6. Number of Credit Hours (Total) / Number of Units (Total)	
5	
7. Course administrator's name (mention all, if more than one name)	
Name: Susan Ibrahim Hassan	
Email: susanih@uokirkuk.edu.iq	
8. Course Objectives	
Course Objectives	<ul style="list-style-type: none"> • Acquire the necessary knowledge of the physical object and understand the meaning and whys of each mathematical concept. • Apply the steps to solve the mathematical problem by analyzing the problem and developing a solution plan. • Helping the student learn more about new sciences in the learning environment. • It helps develop deductive thinking, reasoning and contemplation skills.
9. Teaching and Learning Strategies	
Strategy	<ul style="list-style-type: none"> • Encourage students to participate in the lesson by solving problems and interacting with the materials actively. • Providing opportunities for students to apply mathematical concepts in real-life contexts. • Creating inspiring and intriguing mathematical challenges to motivate students and encourage them to develop their mathematical skills. • Encourage students to work together in groups to solve mathematical problems and discuss ideas. • Provide immediate and constructive feedback to students on their performance and understanding of the material.
10. Course Structure	

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Understand the basic concepts of real numbers and intervals including natural numbers, integers, decimals, and rational numbers.	Real numbers and intervals	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
2	2	Ability to apply mathematical concepts in solving a variety of problems related to linear and quadratic inequalities	Linear and quadratic inequalities	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
3	2	Ability to apply mathematical concepts in solving a variety of problems related to absolute and fractional inequalities	Absolute and Fractional Inequalities	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
4	2	An ability to accurately draw simple functions and understand the relationship between the equation and form of a function.	Drawing simple functions, incrementing and decreasing functions	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
5	2	Understand mathematical patterns related to even, odd, and symmetrical functions, such as symmetry and symmetry.	Even and odd and conflicting functions, some common functions	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
6	2	An ability to apply trigonometric functions in solving practical and realistic problems.	Trigonometric functions, laws of trigonometric functions	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
7	2	exam			
8	2	Develop the ability to analyze geometrically drawn functions, determine their domains and extent, and understand how value changes affect the shape of a graph.	Domain and range of functions drawn (geometrically)	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
9	2	Learn how to determine the range of variability of a function and the set of values it takes.	Domain and range of functions mathematically	Solving exercises on the board with	Student discussion, board solution, daily exam and

				participation of student.	homework solutions.
10	2	Understand the basics of the ends of functions and apply it effectively in solving mathematical problems.	Find the ends of the functions	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
11	2	Learn the concept of continuity of functions and know the conditions necessary for a function to be continuous at a certain point or in a specific set of points.	Continuity of functions	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
12	2	Know the derivative in general and understand the mathematical definition of the derivative.	Derivation by definition	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
13	2	It helps students understand the laws of derivatives comprehensively and practically and enables them to use them efficiently in solving a variety of mathematical problems.	Derivative laws	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
14	2	Knowledge of integration and its importance in mathematics and scientific and engineering applications, including understanding the concept of space under the curve and the area between two curves.	Integration	Solving exercises on the board with participation of student.	Student discussion, board solution, daily exam and homework solutions.
15	2		Exam		

11. Course Evaluation

Daily Exam, Participation and Attendance (5%) + Monthly Exam (35%) + Final Exam (60%)

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Calculus by Thomas
Main references (sources)	Calculus by James Stewart
Recommended books and references (scientific journals, reports...)	Introduction to Mathematical Statistics" by Robert V. Hogg, Joseph W. McKean, and Allen T
Electronic References, Websites	KhanAcademy (https://www.khanacademy.org/)

Course Description Form

1. Course Name:					
General Zoology					
2. Course Code:					
GENZ126					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
2023-3-28					
5. Available Attendance Forms:					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 hours			3 units		
7. Course administrator's name (mention all, if more than one name)					
Name: Assistant prof :Nahla kamal asaad Email: a.p.nahlaasaad@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives					
Objectives of the course 1. Knowledge of zoology and its relationship with other sciences and its branches and importance.. 2. Developing capacity					
9. Teaching and Learning Strategies					
Strategy		<ul style="list-style-type: none"> Preparing a student with a brief knowledge of the basic principles animal production through a brief knowledge of:.. Scienc 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Recognize knowledge. animal and its relationship other sciences is a general presentation on zoology its relationship to science	The animal and relationship to other sciences is a general presentation zoology and its relationship to science	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
2	2	different methods Scientific Basis of Scientific Research	Method of Scientific Research - Basis of Scientific Classification Nomenclature	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports

		Classification Nomenclature			
3	2	Cell, type reasons for division -	Cell, type and reasons for division	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
4	2	Protoplasm cytoplasm	Protoplasm and cytoplasm	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
5	2	and their classification	Eggs and their classification	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
6	2	Recognize enzyme and their role in organism's life	enzymes and their role in organism's life	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
7	2	Identify systems. Vital Essential Animal Body	systems. Vital Essential Animal Body	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
8	2	Identification of chemical coordination in organisms	chemical coordination organisms	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
9	2	Public Introduction Biological Chains)	Public Introduction Biological Chains)	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
10	2	Identification of biodiversity conservation (errors resulting from loss biological chains acceptance of sources...	biodiversity conservation (errors resulting from loss biological chains acceptance of sources...	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
11	2	Recognize Organic Development	Organic Development	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
12	2	Identification of environment and its role in the life of the organism	The environment and its role in the life of the organism	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
13	2	Identification of sources of nutrition	sources of nutrition	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
14	2	Recognize the	manifestations of life in animal	Explanation, presentation of the	Oral and written tests, Daily and monthly reports

		manifestations of life in animal		model and lecture a interactive discussi	and scientifi reports
15	2	Recognize science. Animal tissue	science. Animal tissue	Explanation, presentation of th model and lecture a interactive discussi	Oral and writ tests, Daily a monthly repo and scientifi reports

11. Course Evaluation

1- Theoretical tests

2- Practical tests

3- Reports and studies

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Written by Dr. Zuhair Ibrahim Ftou Mr. Najem Shlemon Corkis
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	https://m.youtube.com/watch?v=eF4VGmaKXjg

Course Description Form

1. Course Name:					
Computer/2					
2. Course Code:					
COMA127					
3. Semester / Year:					
second semester/ first year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(3) Hours, Number of units (1)					
7. Course administrator's name (mention all, if more than one name)					
Name: Assist Prof. Basira Abdullah Ahmed Email: baseraabdullah@uokirkuk.edu.iq					
8. Course Objectives					
Developing the student's abilities to master making tables and writing mathematical equations via the computer					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Run Microsoft Word - open a new document - save the working page - make a backup copy - close a file - open a stored file	Knowledge	lecture	Daily and monthly exam, attendance and reports
2	3	Inverting the language between Latin and Arabic - preparing an Arabic and Latin paragraph - preview before printing - printing the worksheet - specifying the text - font and size - underlining - changing letter case	Knowledge	lecture	Daily and monthly exam, attendance and reports
3	3	Moving and copying information - Word clipboard - Search and replace - Numbers and bullets - Spell checker - Undo - Reverse	Knowledge	lecture	Daily and monthly exam, attendance and reports

		undo - Page setup - Page margins - Text alignment - Line spacing			
4	3	Inserting a table - Inserting rows and columns - Selecting the row/column - Selecting the table - Adding borders and deleting cells - Shading the frame	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	3	Merge and split cells - Split the table - Change the height and width of cells - Auto fit - Repeat the table title - Header and footer - Sorting text	knowledge	lecture	Daily and monthly exam, attendance and reports
6	3	Page numbering - writing code - toolbar - drawing - deleting drawing shapes - filling - drawing line color - inserting, editing, deleting and moving the image	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	3	Microsoft Excel: Run it - Excel worksheet - Enter data - Save the file - Print the worksheet - Exit the program	knowledge	lecture	Daily and monthly exam, attendance and reports
8	3	Practical exam	knowledge	lecture	Daily and monthly exam, attendance and reports
9	3	Selecting cells - types of data - using mathematical formulas to select data - relative and absolute addresses - formulas that produce error values - moving cells - copying data Move or copy a worksheet and replace - move to a cell - delete cells - erase/insert a row or column	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	3	Organizing the address list - Copying images and texts - Splitting web pages - Printing web pages - Search engines - How to search for information on the network - Using the search button in the toolbar -	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	3	Modify the height of a row or column - show and hide the row or column	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	3	Rename the worksheet - font type, size and style	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

13	3	Shape numbers - align data - add borders	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	3	Fill cells - sort data - create a chart	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	3	Edit Created Layout - Header/Footer Insert and remove a page break	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11. Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Computer basics and office applications (Part second) / Ziad Muhammad Aboudi, Ghassan Hamid Abdel Majeed, Mustafa Diao Al-Hassan
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including
Electronic References, Websites	International journals .

Model description of the decision

1. Name of Rapporteur					
Biochemistry					
2. Decision code					
BIOC121					
3. Chapter/year					
Second semester/first year					
4. Date of preparation of this description					
28/03/2024					
5. Forms of presence available					
Mandatory					
6. Number of hours (total)/ number of units (total)					
(5) hours of (2) hours for the theoretical part and (3) hours for the practical part, number of units (3)					
7. Name of the course administrator (if more than one name is mentioned)					
Name: M. D. Dakhri Ahmed Hassan email: thikra.ahmed@uokirkuk.edu.iq					
8. Objectives of the decision					
** Have an understanding of the basic topics in biochemistry and their applications in the field of laboratories with appropriate knowledge of the different axes of chemistry.					
9. Teaching and learning strategies acquire a reasonable level of chemical knowledge commensurate with what is recognized among the different universities of the world, especially the sober ones.					
Method of assessment	Way of learning	Name of unit or subject	Required learning outcomes	Hours	The week
Daily and monthly exam, attendance and reports	Lecture	Biochemistry and its fields The components of the living cell and its functions	Knowledge	5	1
Daily and monthly exam, attendance and reports	Lecture	Carbohydrates – their importance is defined by their sections	Knowledge	5	2
Daily and monthly exam, attendance and reports	Lecture	Single sugars - similar In monosaccharides - the derivatives of monosaccharides - the ring structure of sugars	Knowledge	5	3
Daily and monthly exam, attendance and reports	Student groups	Low-lying polysaccharides – their reduced and unreduced types	Knowledge and skill	5	4
Daily and monthly exam, attendance and reports	Scientific trips to some departments in the province	Many homogeneous and heterogeneous sugars	Knowledge	5	5
Daily and monthly exam, attendance and reports	Lecture	The first month exam	Knowledge and skill	5	6
Daily and monthly exam, attendance	Lecture	Fat – define its importance – fatty acids its sections – their composition	Knowledge	5	7

and reports		– their interactions – geometric similarities to fatty acids			
Daily and monthly exam, attendance and reports	Lecture	Fat sections - simple fats - types (oils, fats and candles) - their composition - fat constants	Knowledge	5	8
Daily and monthly exam, attendance and reports	Lecture	And the shape and shape of the boat – the shape of it	Knowledge and skill	5	9
Daily and monthly exam, attendance and reports	Lecture	Amino acids – their sections – their structures – amino acid properties – their interactions	Knowledge and skill	5	10
Daily and monthly exam, attendance and reports	Student groups	Peptides – proteins – defined by their sections – protein synthesis levels – denera	Knowledge and skill	5	11
Daily and monthly exam, attendance and reports	Lecture	Second month exam	Knowledge and skill	5	12
Daily and monthly exam, attendance and reports	Lecture	Nucleic acids – their importance as nucleotides – their functions – their composition – types of nucleic acids	Knowledge and skill	5	13
Daily and monthly exam, attendance and reports	Lecture	Enzymes – defined – the mechanism of action of the enzyme – classified – inert and active enzymes – factors affecting the speed of the enzymatic reaction	Knowledge and skill	5	14
Daily and monthly exam, attendance and reports	Lecture	Explain the lock and key theory	Knowledge and skill	5	15

10.Evaluation of the decision

Quarterly pursuit score of (40%) distributed (10) scores for daily preparation, participation and reporting, and (30) monthly exam score of two monthly exams per exam (15) score, and the final exam score of (60%)

11.Sources of learning and teaching

Lectures prepared by the teacher based on the relevant books and references.	Required books (methodology, if any)
Chemical by the Dalai Lama	Principal references (sources)
Iraqi academic scientific journals, including the Journal of the University of Kirkuk for Chemical Sciences Biochemistry and its fields	Recommended books and supporting references (scientific journals, reports...)
International magazines and Scopas absorption magazines	Electronic references, Internet sit

Course description form

1. Course name					
Health of Animal Productions					
2. Course code					
HELA212					
3. Semester/year					
First semester					
4. .1The date this description was prepared					
2024/3/9					
5. .1Available forms of attendance					
Is mandatory					
6. .1Number of study hours (total)/number of units (total)					
2 / 5					
7. .1Name of the course administrator (if more than one name is mentioned)					
Name: Dr. Samira Hussein Amin Email: samirahusin@uokirkuk.edu.iq					
8. .1Course objectives					
<ul style="list-style-type: none"> - -The student will be familiar with the concept of animal product health and learn the health conditions for producing chicken, cow, and sheep meat, slaughtering methods, and preserving them from contamination. 			Objectives of the study subject		
9. .Teaching and learning strategies					
<ul style="list-style-type: none"> - Preparing a student with a brief knowledge of the health of animal products through a brief knowledge of - The student will be familiar with the most important foodstuffs suitable human consumption. - -The student will learn how to maintain the health of these products deliver them to the consumer in the best possible way. 					The strategy
10. .1Course structure					
Evaluation method	Learning method	Name of the unit or topic	Required learning outcomes	hours	the week
daily and monthly tests, scientific reports.	Lecture, demonstrations and interact discussion.	Definition of the concept of animal product health and its relationship	The concept of animal product health	2	1
=	=	Defining methods preserving animal products	Methods of preserving animal products	2	2
=	=	Defining the principles that must be adopted when producing carcasses fit for consumption	The principles that must be adopted when producing carcasses fit for consumption	2	3
=	=	Definition of the	Precautions that	2	4

		precautions that must be taken when transporting animals	must be taken when transporting animals		
=	=	Definition of massacres	Massacres	2	5
=	=	Definition of examining the animal before slaughter	Examination of the animal before slaughter	2	6
=	=	Definition of examining the animal before slaughter + treating the animal before slaughter	Definition of examining the animal before slaughter + treating the animal before slaughter	2	7
=	=	Definition of examining carcasses + examining the head, lungs, heart, liver, and examining the abdominal viscera	Examination of carcasses + examination of the head, lungs, heart, liver, and examination of the abdominal viscera	2	8
=	=	Definition of chemical methods to distinguish animal meat and fats	Chemical methods for distinguishing animal meat and fats	2	9
=	=	Defining the factors that affect their reproduction and the effectiveness of germs in meat	Factors that affect their reproduction and the effectiveness of germs in meat	2	10
=	=	Defining the types of germs that can be found in meat	Types of germs that can be found in meat	2	11
=	=	Definition of chemical residues in meat	Chemical residues in meat	2	12
=	=	Definition of sources of food pollution	Sources of food contamination	2	13
=	=	Definition of chemical methods to distinguish animal meat and fats + biological methods to determine the type of meat	Chemical methods for distinguishing animal meat and fat + biological methods for determining the type of meat	2	14
=	=	Definition of microorganisms in meat	Microorganisms in meat	2	15

11. .1Course evaluation	
Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.	
12. .1Learning and teaching resources	
Egg Microbiology, written by Dr. Ma Muhammad, 2001, College of Agriculture University of Baghdad	Required textbooks (methodology, if any)
Meat and fish health, written by Dr. Ahmed Ab Gawad, 2011, Faculty of Agriculture - Alexand University	Main references (sources)
	Recommended supporting books and references (scientific journals, reports....)
	Electronic references, Internet sites

Course Description Form

1. Course Name:					
Principles of ichthyology					
2. Course Code:					
PRFI213					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
2023-3-28					
5. Available Attendance Forms:					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 hours / 3 units					
7. Course administrator's name (mention all, if more than one name)					
Name: Assistant Lecturer :Pola Jalal Nader					
Email: polajalal@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives					
<p>Raising the level of students' knowledge of fish science and its different sections and types.</p> <ul style="list-style-type: none"> • Definition of the internal anatomy of fish (a detailed study of the various body systems). • Defining the environment of fish, their populations, and their feeding and living methods. • Defining the fish found in the Mesopotamian environment, and the breeding seasons for different species. 					
9. Teaching and Learning Strategies					
Strategy		<p>Make the learner able to benefit from all kinds of water resources.</p> <ul style="list-style-type: none"> • Preserving fish stocks and increasing them through scientific methods. • The ability to deal with sources of information by searching for new information in fish science. • The ability to evaluate by linking theory with practical application. 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Splitting fish	General definitional terms about dividing fish according to shape, nutrition and aquatic environment	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
2	2	The external appearance of the fish	The external appearance of the fish	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports

					and scientific reports
3	2	Embryology	Fish embryology	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
4	2	Post-hatching life history stages	Post-hatching life history stages	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
5	2	nutrition	nutrition	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
6	2	Age and growth	Age and growth in fish	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
7	2	the first exam	the first exam	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
8	2	Fish assemblage	Fish assemblages	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
9	2	Fertility in fish	Fertility in fish	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
10	2	Water Pollution	Water pollution and its effect on fish	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
11	2	Aquatic environment	Water as a living medium for fish	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
12	2	Natural food	Natural food for fish, natural productivity of fish	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
13	2	Second exam	Second exam	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
14	2	Ornamental fish	Ornamental fish and breeding	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports

					and scientific reports
15	2	Embryology	Embryology in fish	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports

11. Course Evaluation

1- Theoretical tests

2- Practical tests

3- Reports and studies

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	Book/Psychology Education - Written by: Dr. Hamoud bin Faris Al-Qahm Al-Balawi
Recommended books and references (scientific journals, reports...)	Book / Vertebrate Science - Written by: Mona Farid Abdel Rahman
Electronic References, Websites	Book/Marine Environment - Written by: Muhammad Ismail and Dr. Shehata Al-Siba

Course Description Form

1. Course Name:					
Horticulture Science Principles					
2. Course Code:					
PSHO214					
3. Semester / Year:					
First course / second year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Ahmed Salahudin Bahauldin Email: ahmedsalah1983@uokirkuk.edu.iq					
8. Course Objectives					
It aims to provide knowledge and skills and teach students about horticulture and the classification of horticultural plants, in addition to teaching students to identify the families of horticultural crops (fruits, vegetables, ornamentals). Learn about service operations for horticultural crops and how to create orchards, gardens and parks. Students are also taught how to create a nursery and care for seedlings.					
9. Teaching and Learning Strategies					
Introducing students to the principles of horticulture and methods of propagating horticultural plants, whether sexual or vegetative, teaching them how to establish vegetable farms or fruit orchards and establishing nurseries for horticultural crops, as well as teaching students how to produce seeds in horticultural plants and ways to care for them in terms of storage and marketing, as well as the student's knowledge of how to Designing, coordinating and creating home gardens and parks.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Knowledge and skills	Horticulture, the history of the development of horticulture and its economic importance	lecture	Daily and monthly exam, attendance and reports
2	5	Knowledge and skills	Division of horticultural plants, constructions	lecture	Daily and monthly exam, attendance and reports

			used in horticulture		
3	5	Knowledge and skills	Environmental factors suitable for the production of horticultural crops	lecture	Daily and monthly exam, attendance and reports
4	5	Knowledge and skills	Methods of propagation in horticultural crops (sexual and asexual)	Field scenes at the agricultural research and experiments station	Daily and monthly exam, attendance and reports
5	5	Knowledge and skills	Nurseries and methods of establishing them	Field scenes at the agricultural research and experiments station	Daily and monthly exam, attendance and reports
6	5	Knowledge and skills	Ornamental nurseries (first month exam)	lecture	Daily and monthly exam, attendance and reports
7	5	Knowledge and skills	Field farming patterns and agricultural operations	Field scenes at the agricultural research and experiments station	Daily and monthly exam, attendance and reports
8	5	Knowledge and skills	Fertilizers, methods of adding them and their timing	Laboratory use	Daily and monthly exam, attendance and reports
9	5	Knowledge and skills	Protected and air-conditioned environment	field	Daily and monthly exam, attendance and reports
10	5	Knowledge and skills	Breeding and improving horticultural plants and seed production methods	Laboratory use	Daily and monthly exam, attendance and reports

11	5	Knowledge and skills	Perennial and deciduous fruit trees	lecture	Daily and monthly exam, attendance and reports
12	5	Knowledge and skills	Vegetable plants (main crops)	+Field	Daily and monthly exam, attendance and reports
13	5	Knowledge and skills	Ornamental plants and garden architecture	lecture	Daily and monthly exam, attendance and reports
14	5	Knowledge and skills	Plants that need agricultural cycles (vegetables)	+Field	Daily and monthly exam, attendance and reports
15	5	Knowledge and skills	(Second month exam)	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester endeavor is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (10) grade for the practical semester exams, and (20) for the theoretical semester exams, and the final exam grade is from (60%), and the final practical exam is (20) The final theoretical exam is (40) marks

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Principles of horticulture Dr. Karim Saleh Abdul and. Saad Zaaloul Principles of Gardening, written by Dr. Faisal Rashid Nasser
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Agricultural Extension					
2. Course Code:					
AGEP213					
3. Semester / Year:					
First semester/second year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(2) Hours, Number of units (2)					
7. Course administrator's name (mention all, if more than one name)					
Name: Prof. Dr. khattab Abdullah Mohammed Email: khattab1981@uokirkuk.edu.iq					
8. Course Objectives					
The course aims to raise the level of students' knowledge about agricultural extension and how to solve problems facing farmers and deliver modern agricultural techniques to implement them on their farms by employing rural leaders in extension work.					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Definition of agricultural extension	knowledge	lecture	Daily and monthly exam, attendance and reports
2	2	The importance of agricultural extension	knowledge	lecture	Daily and monthly exam, attendance and reports
3	2	The interconnection between extension, education and agricultural research	knowledge	lecture	Daily and monthly exam, attendance and reports
4	2	Agricultural extension philosophy	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	2	Principles of agricultural extension	knowledge	lecture	Daily and monthly exam, attendance and reports
6	2	Agricultural extension training	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports

7	2	Extensional management	knowledge	lecture	Daily and monthly exam, attendance and reports
8	2	Leadership in agricultural extension	knowledge	lecture	Daily and monthly exam, attendance and reports
9	2	Rural leadership	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	2	Extensional communication	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	2	The process of diffusion and adoption of innovations	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	2	The decision-making process related to innovations	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	2	Methods and means of agricultural extension	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	2	Planning agricultural extension programs	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	2	Electronic agricultural extension	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11. Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Principles of agricultural extension, written by Dr. Abdullah Al-Samarrai
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Principles of Microbiology					
2. Course Code:					
PRMI216					
3. Semester / Year:					
First semester/second year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Hanan Abdulrahman Noaman					
Email: hananabdulrahman@uokirkuk.edu.iq					
8. Course Objectives					
Providing comprehensive scientific guidance to students and conducting new examinations of microbiology and immunity as they relate to human diseases by raising the student's level of knowledge of microbiology.					
9. Teaching and Learning Strategies					
The curriculum talks about identifying the types of microorganisms and their parts, studying their movement, methods of dyeing, and how to deal with them in the laboratory.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Definition of microbiology and the stages of its development	Definition of microbiology and the stages of its development	Lecture, demonstrations and interactive discussion	Daily and monthly exam, attendance and reports
2	2	Morphological properties of microorganisms	Morphological properties of microorganisms	=	=
3	2	The basic parts of bacteria	The basic parts of bacteria	=	=
4	2	Non-essential parts of bacteria	Non-essential parts of bacteria	=	=
5	2	Supplement to previous materials	Supplement to previous materials	=	=
6	2	Physical factors affecting growth	Physical factors affecting growth	=	=

7	2	Chemical factors affecting growth	Chemical factors affecting growth	=	=
8	2	Growth curves and their calculations	Growth curves and their calculations	=	=
9	2	Molds and yeasts/morphological and functional aspects	Molds and yeasts/morphological and functional aspects	=	=
10	2	Methods of reproduction of molds and yeasts and their uses	Methods of reproduction of molds and yeasts and their uses	=	=
11	2	Viruses	Viruses	=	=
12	2	Nutrition of microorganisms	Nutrition of microorganisms	=	=
13	2	Pathological microorganisms	Pathological microorganisms	=	=
14	2	The relationship of microorganisms to foods	The relationship of microorganisms to foods	=	=
15	2	The relationship of microorganisms to foods	The relationship of microorganisms to foods	=	=

11. Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Principles of microbiology
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:	
Mechanization of animal production	
2. Course Code:	
MECA217	
3. Semester / Year:	
First semester/second year	
4. Description Preparation Date:	
3/4/2024	
5. Available Attendance Forms:	
Is mandatory	
6. Number of Credit Hours (Total) / Number of Units (Total)	
(5) hours, (2) hours for the theoretical part and (3) hours for the practical part number of units (3)	
7. Course administrator's name (mention all, if more than one name)	
Name: Professor Dr. Hussain Thahir Tahir Email: hussain.tahir@uokirkuk.edu.iq	
8. Course Objectives	
Course Objectives	<p>1- Introducing, qualifying and training students theoretically and practically:</p> <p>2- Introducing a student to general concepts and definitions in Mechanization of animal production</p> <p>3- Introducing the student to the types of tables</p> <p>4- Introducing the student to arithmetic problems</p> <p>5- The student's ability to train in service operations</p> <p>6- Stimulating the student's deductive skills</p> <p>7- Identify the problem or obstacle and know how to find the appropriate solution</p>
Teaching and Learning Strategies	
Strategy	<p>1- Manage, exploit and use machinery in the animal production in a scientific and technical manner.</p> <p>2- Maintenance and repair of all machines and harvesters.</p> <p>3- Know the main factors that must be taken into consideration when choosing a machine.</p>

- 4- Productivity for animal machinery.
5-Guiding the student to develop him academically and his ability in the future.

9. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3+2	Show topic data word and Data Show	Choosing a site to build the barn.	Calculator + Lectures	Daily questions + tests
2	3+2	Show topic data word and Data Show	Barns for large and small animals and poultry.	Calculator + Lectures	Daily questions + tests
3	3+2	Show topic data word and Data Show	Controlling environmental conditions in animal pens.	Calculator + Lectures	Daily questions + tests
4	3+2	Show topic data word and Data Show	Heating in animal pens + control and warning systems used in the ventilation system.	Calculator + Lectures	Daily questions + tests
5	3+2	Show topic data word and Data Show	Providing agricultural buildings with water.	Calculator + Lectures	Daily questions + tests
6	Semester exam	Show topic data word and Data Show	the exam?	Calculator + Lectures	Daily questions + tests
7	3+2	Show topic data word and Data Show	Milking equipment and systems.	Calculator + Lectures	Daily questions + tests
8	3+2	Show topic data word and Data Show	Refrigeration devices and their uses.	Calculator + Lectures	Daily questions + tests
9	3+2	Show topic data word and Data Show	Wool shearing equipment + electric wool shearing machine components.	Calculator + Lectures	Daily questions + tests
10	3+2	Show topic data word and Data Show	Waste disposal equipment + equipment, devices and means used to move waste.	Calculator + Lectures	Daily questions + tests
11	3+2	Show topic data word and Data Show	Mechanization of the manufacture of concentrated and rough feed.	Calculator + Lectures	Daily questions + tests
12	3+2	Show topic data word and Data Show	Hatcheries and egg packing equipment.	Calculator + Lectures	Daily questions + tests
13	Semester exam	Show topic data word and Data Show	Treating eggs before placing them in hatcheries.	Calculator + Lectures	Daily questions + tests
14	3+2	Show topic data word and Data Show	Animal slaughtering and meat processing equipment.	Calculator + Lectures	Daily questions + tests
15	3+2	Show topic data word and Data Show	Exam.	Calculator + Lectures	Daily questions + tests

10. Course Evaluation

Daily and monthly tests through questions presented to them on the subject studied
Degrees are awarded for student participation in scientific research and reports
Student activities by creating posters and illustrations related to the academic subject

11. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Mechanization of animal production, Muhammad Jassim Nimah, 2nd edition, revised and expanded - Mosul / University of Mosul
Main references (sources)	The Internet in general
Recommended books and references (scientific journals, reports...)	Messages and theses, ancient and modern
Electronic References, Websites	Iraqi academic journals, Researchgate, USGS

Course Description Form

1. Course Name:					
Computer/3					
2. Course Code:					
COMA217					
3. Semester / Year:					
Second semester/ First year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(3) Hours, Number of units (1)					
7. Course administrator's name (mention all, if more than one name)					
Name: Assist Prof. Basira Abdullah Ahmed Email: baseraabdullah@uokirkuk.edu.iq					
8. Course Objectives					
Developing the student's abilities to master making tables and writing mathematical equations via the computer					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Run Microsoft Word - open a new document - save the working page - make a backup copy - close a file - open a stored file	Knowledge	lecture	Daily and monthly exam, attendance and reports
2	3	Inverting the language between Latin and Arabic - preparing an Arabic and Latin paragraph - preview before printing - printing the worksheet - specifying the text - font and size - underlining - changing letter case	Knowledge	lecture	Daily and monthly exam, attendance and reports
3	3	Moving and copying information - Word clipboard - Search and replace - Numbers and bullets - Spell checker - Undo - Reverse undo - Page setup - Page	Knowledge	lecture	Daily and monthly exam, attendance and reports

		margins - Text alignment - Line spacing			
4	3	Inserting a table - Inserting rows and columns - Selecting the row/column - Selecting the table - Adding borders and deleting cells - Shading the frame	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	3	Merge and split cells - Split the table - Change the height and width of cells - Auto fit - Repeat the table title - Header and footer - Sorting text	knowledge	lecture	Daily and monthly exam, attendance and reports
6	3	Page numbering - writing code - toolbar - drawing - deleting drawing shapes - filling - drawing line color - inserting, editing, deleting and moving the image	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	3	Microsoft Excel: Run it - Excel worksheet - Enter data - Save the file - Print the worksheet - Exit the program	knowledge	lecture	Daily and monthly exam, attendance and reports
8	3	Practical exam	knowledge	lecture	Daily and monthly exam, attendance and reports
9	3	Selecting cells - types of data - using mathematical formulas to select data - relative and absolute addresses - formulas that produce error values - moving cells - copying data Move or copy a worksheet and replace - move to a cell - delete cells - erase/insert a row or column	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	3	Organizing the address list - Copying images and texts - Splitting web pages - Printing web pages - Search engines - How to search for information on the network - Using the search button in the toolbar -	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	3	Modify the height of a row or column - show and hide the row or column	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	3	Rename the worksheet - font type, size and style	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	3	Shape numbers - align data - add borders	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	3	Fill cells - sort data - create a chart	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

15	3	Edit Created Layout - Header/Footer Insert and remove a page break	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11. Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Computer basics and office applications (Part second) / Ziad Muhammad Aboudi, Ghassan Hamid Abdel Majeed, Mustafa Diao Al-Hassan
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including
Electronic References, Websites	International journals .

Course Description Form

1. Course Name:					
The crimes of the Baath regime in Iraq					
2. Course Code:					
BAPC219					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
31\3\2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 hours / 2 units					
7. Course administrator's name (mention all, if more than one name)					
Name: m. shahad jumaa mohammad					
Email: shahadjumaa@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		<p>The course aims to introduce the student to the crimes committed by the Baath regime and the punishments. The decisions issued against the perpetrators of crimes, the types of international crimes and their impact on the citizenry. And mass graves.</p>			
9. Teaching and Learning Strategies					
Strategy		<p>To make the learner able to know the types of international crimes and their impact on the people from a psychological, social and religious perspective and the punishments issued against the perpetrators of such crimes, as well as to know the oppression, abuse, murder and intimidation committed by the previous regime against Iraqi society.</p>			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Learn about the concept of crimes and their categories	Crimes of the Baath regime according to the Iraqi Supreme Criminal Court Law	Lecture and discussion	Oral examination and essay

2	2	Identify the types of international crimes	Crimes of the Baath regime according to the Iraqi Supreme Criminal Court Law in 2005	=	=
3	2	Learn about the decisions issued by Supreme Criminal Court	Crimes of the Baath regime according to the Iraqi Supreme Criminal Court Law in 2005	=	=
4	2	Identify the mechanisms of psychological crimes.	Psychological and social crimes and their effects	=	=
5	2	Identify the effects of psychological crimes	Psychological and social crimes and their effects	=	=
6	2	Identify social crimes	Psychological and social crimes and their effects	=	=
7	2	Identify violations of Iraqi laws. And learning about places of prisons detention of the Baath regime.	Psychological and social crimes and their effects		
8	2	exam			
9	2	Identifying military and radioactive contamination and mine explosions	Environmental crimes of Baath regime in Iraq	=	=
10	2	Recognizing the destruction of cities and villages (scorched earth policy)	Environmental crimes of Baath regime in Iraq	=	=
11	2	Learn about draining marshes razing palm groves, trees and crops	Environmental crimes of Baath regime in Iraq	=	=
12	2	exam			
13	2	Identifying mass Graves	Mass grave crimes	=	=
14	2	Identification of genocide graves related to the Iran-Iraq War of 1980-1988 AD	Mass grave crimes	=	=
15	2	Identifying the genocidal graves of victims of	Mass grave crimes	=	=

		the 1991 Shaabaniya uprising			
11. Course Evaluation					
The semester endeavor is (40%) distributed (10) grades for daily preparation and participation, (30) monthly exams, with two monthly exams for each exam (15) grades, and the final exam grade is (60%).					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if any)			The crimes of the Baath regime in Iraq		
Main references (sources)			International responsibility for committing the crime of genocide - The geography of the marshes and swamps in southern Iraq - Environmental crimes of the Baath regime in Iraq - Mass graves , a people under the soil		
Recommended books and references (scientific journals, reports...)					
Electronic References, Websites					

Course Description Form

1. Course Name:					
Genetics					
2. Course Code:					
GENE221					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
29-3-2024					
5. Available Attendance Forms:					
mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5Hours / 3 Unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Gulala Wahab Ameen Email: gulalawahab@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives	<p>Teaching students how to inherit genetic traits: How to perform genetic improvement in plants and animals. Teaching the student how one life arises from another life and knowing the laws that the scientist Mendel established in isolation Quantities and their union again to give new qualities. Teach the student the symbols of genetic traits and the expected ratio and number of genotypes (pure and hybrid). Obtained .</p>				
9. Teaching and Learning Strategies					
Strategy	<p>Teaching students how to improve what benefits us from animals, plants, and other forms of life for the purpose of increasing Human well-being and achieving a better life and future for him.</p>				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Introduction	Introduction	Lecture, demonstrations and interactive discussion	tests, daily and monthly tests, and scientific reports
2	3	Nucleic Acid Replication and Synthesis of Nucleic Acid	Nucleic Acid Replication and Synthesis of Nucleic Acid	=	=
3	3	Mendelian Principles	Mendelian Principles	=	=

		Segregation , independent assortment	Segregation , independent assortment		
4	3	Dominance and statistical testing Dominance Relation and multiple Alleles	Dominance and statistical testing Dominance Relation and multiple Alleles	=	=
5	3	Environmental effects and gene expression Gene Interaction and Lethality	Environmental effects and gene expression Gene Interaction and Lethality	=	=
6	3	Sex determination and Sex Linkage Maternal effects and cytoplasmia	Sex determination and Sex Linkage Maternal effects and cytoplasmia	=	=
7	3	Quantitative Inheritance Linkage and recombination and gene mapping	Quantitative Inheritance Linkage and recombination and gene mapping	=	=
8	3	chromosome variation in number	chromosome variation in number	=	=
9	3	* changes in chromosome structure	* changes in chromosome structure	=	=
10	3	Mutations	Mutations	=	=
11	3	Genetic Control of Proteins	Genetic Control of Proteins	=	=
12	3	Genetic Code	Genetic Code	=	=
13	3	Gene frequencies and Equilibrium	Gene frequencies and Equilibrium	=	=
14	3	changes in gene frequencies	changes in gene frequencies	=	=
15	3	Genetic Markers	Genetic Markers	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Genetics Book
Main references (sources)	Genetics Books
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:					
Forage Crops					
2. Course Code:					
FOPC222					
3. Semester / Year:					
First semester/ second year					
4. Description Preparation Date:					
1/4/2024					
5. Available Attendance Forms:					
Attendance at lecture is mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 Hours (2 hours theory , 3 hours practical per week) - Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr.abbas Abdulla taha \ Email: abbasabdulla@uokirkuk.edu.iq					
8. Course Objectives					
<ul style="list-style-type: none"> -teaching student the basic principles of forage crops and natural pastures -teaching student the types of forage crops and their plant families -teaching students the important of forage crops and their economic development 					
9. Teaching and Learning Strategies					
<ul style="list-style-type: none"> -follow the lecture methods and use modern presentation methods -direct dialogue with student by asking them questions -Assigning student to homework (writing scientific reports) 					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Cognitive	Forage crops, their importance and mention of some related terms	Lecture Discussion	Daily attendance and exam
2	5	Cognitive	Study of the Alfalfa plant, its economic importance, types and varieties of the Alfalfa crop	Lecture Discussion	Daily attendance and exam
3	5	Cognitive	Agricultural operations, production of Alfalfa seeds and appropriate conditions for them, pests of Alfalfa plant	Lecture Discussion	Daily attendance and exam
4	5	Cognitive	The most important annual and perennial clovers, the economic benefit of clover	Lecture Discussion	Daily attendance and exam
5	5	Cognitive	Study of the Egyptian clover plant	Lecture Discussion	Daily attendance and exam
6	5	Cognitive	Economic importance, components of Egyptian clover, suitable environment for plant growth	Lecture Discussion	Daily attendance and exam

7	5	Cognitive	Fodder uses of Egyptian clover	Lecture Discussion	Daily attendance and exam
8	5	Cognitive	Study of some types of clover	Lecture Discussion	Daily attendance and exam
9	5	Cognitive	Study of the Medics plant (annual alfalfa)	Lecture Discussion	Daily attendance and exam
10	5	Cognitive	Studying the advantages of the sweet clover-Bird foot trefoil plants	Lecture Discussion	Daily attendance and exam
11	5	Cognitive	The hay and the factors affecting it, the appropriate time for mowing fodder grasses	Lecture Discussion	Daily attendance and exam
12	5	Cognitive	Study the advantages of Vetch plant	Lecture Discussion	Daily attendance and exam
13	5	Cognitive	How to manufacturing the forage	Lecture Discussion	Daily attendance and exam
14	5	Cognitive	Summer forage grasses	Lecture Discussion	Daily attendance and exam
15	5	Cognitive	Study of winter grain crops	Lecture Discussion	Daily attendance and exam

11.Course Evaluation

Final theoretical exam	Final practical test	Daily theoretical tests	Practical semester tests	Theoretical semester tests
40	20	5	15	20

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	forage crops and pastures, Dr. Ramadan Ahmed Al-Takriti, Dr. Tawakkol Younis Rizk and Dr. Hikmat Askar Rumi
Main references (sources)	Scientific journals in agricultural and economic specialties
Recommended books and references (scientific journals, reports...)	International journals within international classifications and standards
Electronic References, Websites	International journals within international classifications and standards

Course Description Form

1. Course Name:					
Breeding and production of fish					
2. Course Code:					
FIPR223					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
2023-3-28					
5. Available Attendance Forms:					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 hours			3 units		
7. Course administrator's name (mention all, if more than one name)					
Name: Assistant Lecturer :Pola Jalal Nader					
Email: polajalal@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives					
Raising the level of students' knowledge about general concepts about establishing fish farming ponds.					
<ul style="list-style-type: none"> • Training with the necessary skills on how best we can benefit from the wa resources available throughout the country. 					
9. Teaching and Learning Strategies					
Strategy	<ul style="list-style-type: none"> • Make the learner capable of general knowledge about fish farming and production. • Increase the number of professionally qualified people to manage fish production and to establish and maintain a sub-structure and specialized department appropriate to meet the local, specialized and general needs fish breeding and production interests. 				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	The importance of fish farming its definition, and the goals of fish farming	1.A historical overview of the importance of fish farming and rapid development 2. Definition of fish farming, types and sharing of fish farming 3. Advantages of fish farming compared to farm animals	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily assignments, monthly reports and scientific reports

			4. Conditions that must be met for breeding fish 5. Farming systems 6. Objectives of fish farming		
2	2	Different methods of fish farming and the scientific and practical foundations for establishing ponds	1. Basic components of fish farming 2. Different methods of fish farming - breeding ponds, cage enclosures, closed rotating systems, open systems. 3. Scientific and practical foundations for establishing earthen culture ponds 4. Types of earthen culture ponds	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
3	2	Creating different types of ponds	Establishing various types of basins - supplying basins with water - gates, drainage pipes, and draining basin water	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
4	2	A scientific visit to temperate water fish farming projects (cyprinids)	1. Quality of surface water and ground water 2. Physical characteristics of pond water, culture, temperature, color, clarity, transparency, and pH	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
5	2	Physical characteristics of water in culture ponds: dissolved oxygen, salinity, alkalinity, nutrients, ammonia. Life characteristics of culture pond water, raw materials, organic materials, phytoplankton and zooplankton and benthic organisms..	nutrition	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
6	2	Fish food and nutrition	1. Fish nutrition and nutrition, goals, precautions 2. Dividing fish according to their nutrition 3. Natural food, its components, calculation, and development	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
7	2	First semester exam	First semester exam	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
8	2	Scientific visit to cold water fish farming projects (salmon)	Complementary food, artificial feed ingredients, their manufacture and estimation of their efficiency. Fish needs protein, carbohydrates, fats, energy, vitamins and mineral salts	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
9	2	Methods of serving food	7. Methods of providing food to farmed fish 8. Factors affecting fish nutrition 9. The relationship of food to growth	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
10	2	Fertilization in breeding ponds	1. Fertilization, its types and conditions 2. Fertilization objectives and culture pond needs	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports

			3. The effect of fertilization on growth rates		
11	2	A scientific visit to fish hatchery project	1. Reproduction, the factors affecting it and its types. 2. Natural and artificial reproduction by enticement 3. Characteristics of fish intended for breeding 4. Multiplication of common fish in Iraq and its calculation	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
12	2	Basin productivity	1. Pond productivity, natural productivity and its components 2. Fish crop and increasing its production 3. Means to increase fish productivity	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
13	2	Second semester exam	Second semester exam	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
14	2	Fish diseases	1. Fish diseases and characteristics of affected fish 2. Factors leading to the spread of the disease 3. Bacterial and viral diseases 4. Fungal diseases, nutritional deficiency diseases, and genetic diseases 5. Methods of identifying diseases and methods of treating diseases	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports
15	2	Transporting and selling live fish	1. Live fish transportation and 2. Means to increase productivity	Explanation, presentation of the model and lecture and interactive discussion	Oral and written tests, Daily and monthly reports and scientific reports

11. Course Evaluation

1- Theoretical tests

2- Practical tests

3- Reports and studies

Distribution of the grade out of 100 according to the tasks assigned to the student, such as daily preparation, daily, oral, monthly, written exams, reports, etc.

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)

Main references (sources)

Book/fish farming - written by: Dr. The star of the moon of Daham

Recommended books and references (scientific journals, reports...)

Book/Fish Breeding and Management
Written by: Dr. Kazem Abdel Amir Mohsen

Electronic References, Websites

Book/Basics of Fish Breeding and Production - Written by: Dr. Mahfouz Huss Muhammad

Course Description Form

1. Course Name:					
Dairy industry					
2. Course Code:					
PRDA224					
3. Semester / Year:					
second semester/Second Year					
4. Description Preparation Date:					
3/4/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr. Mustafa M. Omar Email: mustafa.mohamed@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives	<ol style="list-style-type: none"> 1. Knowing the analytical approach and using it to understand the basic components of milk. 2. Study and analysis of the major and minor components of milk. 3. The effect of thermal treatments on milk and its components. 4. The effect of each of the components on the manufacturing processes of milk derivatives. 				
9. Teaching and Learning Strategies					
Strategy	<ol style="list-style-type: none"> 1. Developing students' abilities in research and investigation using e-learning and access to modern sources and magazines as a source of information. 2. Empowering the student to pass job interviews. 3. Enabling the student to continue self-development after graduation. 4. Enabling the student to conduct applied research in the field of dairy science. 				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Definitions of milk: factors affecting the composition of milk	Knowledge	lecture	Daily exam and reports
2	5	Physical properties of milk	Knowledge and skills	lecture	Daily exam and reports
3	5	Milk components: water, fat, and lactose	Knowledge and skills	lecture	Daily exam and reports
4	5	Protein	Knowledge and skills	lecture	Daily exam and reports
5	5	Enzymes, mineral salts, and vitamins	Knowledge and skills	lecture	Daily exam and reports
6	5	Microorganisms in milk	Knowledge and skills	lecture	Daily exam and reports

7	5	Diseases transmitted through milk	Knowledge and skills	lecture	Daily exam and reports
8	5	Adjusting the percentage of fat in milk (Pearson square)	Knowledge and skills	lecture	Daily exam and reports
9	5	Various milk tests	Knowledge and skills	lecture	Daily exam and reports
10	5	Preparing milk on the farm and receiving the milk	Knowledge	lecture	Daily exam and reports
11	5	Milk sorting and cream manufacturing	Knowledge	lecture	Daily exam and reports
12	5	Thermal parameters of milk	Knowledge	lecture	Daily exam and reports
13	5	Milk fermentation industry	and skill Knowledge	lecture	Daily exam and reports
14	5	Cheese making	Knowledge and skill	lecture	Daily exam and reports
15	5	Health and hygiene affairs in dairy factories	Knowledge and skill	lecture	Daily exam and reports

11. Course Evaluation

Semester endeavor (40 marks): 25 marks

The theoretical part: 20 marks Two monthly exams, 5 marks Reports 15 marks Practical part: 10 marks monthly exams, 5 marks student practical activity

Final quest (60 marks): 40 marks theoretical questions, 20 marks practical questions

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	General dairy principles, Al-Shabibi.
Main references (sources)	Specialized books in the field of dairy science and its products.
Recommended books and references (scientific journals, reports...)	International periodicals and journals in Clarivate and Scopus containers.
Electronic References, Websites	International periodicals and journals in Clarivate and Scopus containers.

Course Description Form

1. Course Name:					
Agricultural Economic Principles					
2. Course Code:					
AGEP122					
3. Semester / Year:					
Second semester/ First year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(2) Hours, Number of units (2)					
7. Course administrator's name (mention all, if more than one name)					
Name: Prof. Dr. khattab Abdullah Mohammed Email: khattab1981@uokirkuk.edu.iq					
8. Course Objectives					
The course aims to raise the level of students' knowledge about general concepts in the economy in general and its types, economic systems and the importance of the agricultural sector among other economic sectors, identifying the most important problems facing it and ways to reduce them, and displaying and marketing agricultural commodities.					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability, and conduct scientific visits to agricultural projects.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	General concepts in economics	knowledge	lecture	Daily and monthly exam, attendance and reports
2	2	Types of economy, economic systems, productive resources	knowledge	lecture	Daily and monthly exam, attendance and reports
3	2	The importance of the agricultural sector	knowledge	lecture	Daily and monthly exam, attendance and reports
4	2	Economic characteristics of contemporary agriculture	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	2	Risk and uncertainty in agricultural work	knowledge	lecture	Daily and monthly exam, attendance and reports

6	2	Production function	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	2	Demand for agricultural commodities and its types	knowledge	lecture	Daily and monthly exam, attendance and reports
8	2	Factors affecting demand for agricultural commodities	knowledge	lecture	Daily and monthly exam, attendance and reports
9	2	Elasticity of demand and its types	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	2	Display agricultural commodities	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	2	Factors affecting the supply of agricultural commodities	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	2	Flexibility of supply and its types	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	2	Agricultural production function	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	2	Economic problems: unemployment	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	2	Economic problems: inflation	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11. Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Principles of Agricultural Economics, written by Ali Jadoua Al-Sharaf
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Democracy					
2. Course Code:					
FRED226					
3. Semester / Year:					
second semester/ second year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(1) Hours, Number of units (1)					
7. Course administrator's name (mention all, if more than one name)					
Name: Assist Prof. Basira Abdullah Ahmed Email: baseraabdullah@uokirkuk.edu.iq					
8. Course Objectives					
Know the importance of studying freedom and democracy.					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	The concept of freedom, the concept of anarchy, the concept of democracy, the historical	Knowledge	lecture	Daily and monthly exam, attendance and reports
2	1	Forms of the system: indirect	Knowledge	lecture	Daily and monthly exam, attendance and reports
3	1	Civil, society,	Knowledge	lecture	Daily and monthly exam, attendance and reports
4	1	The concept of freedom	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	1	The concept of anarchism	knowledge	lecture	Daily and monthly exam, attendance and reports
6	1	The basic conditions of a democratic system and its characteristics	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports

7	1	Features of the democratic system	knowledge	lecture	Daily and monthly exam, attendance and reports
8	1	development of the concept of democracy in the Mesopotamian civilization	knowledge	lecture	Daily and monthly exam, attendance and reports
9	1	The pillars of democracy, the basic conditions of the democratic system	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
10	1	Features of the democratic system, types of democracy	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
11	1	democracy, democracy, its concept and manifestations	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
12	1	Different systems of elections	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
13	1	Democracy applications	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
14	1	democratic values and functions	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports
15	1	The report on human rights in Islam comprehended and surpassed all hypothetical	Knowledge, skill	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Human Rights and Democracy / Dr. Ghassan Karim Majhab, Amjad Zein Al-Abidin Tohm
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including
Electronic References, Websites	International journals .

Course Description Form

1. Course Name:					
Computer/4					
2. Course Code:					
COMA227					
3. Semester / Year:					
second semester/ second year					
4. Description Preparation Date:					
28/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(3) Hours, Number of units (1)					
7. Course administrator's name (mention all, if more than one name)					
Name: Assist Prof. Basira Abdullah Ahmed Email: baseraabdullah@uokirkuk.edu.iq					
8. Course Objectives					
Introducing the student to the components of the computer, explaining the units of information input and graduation, and providing and developing the student's abilities by using the main applications in the computer					
9. Teaching and Learning Strategies					
Verbal communication with students, urging them to work together in the learning process, using written communication skills to increase comprehension, as well as the brainstorming method to attract students' attention, activate the thinking strategy according to the student's ability.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Identifying the computer and its parts, turning the computer on/off	Knowledge	lecture	Daily and monthly exam, attendance and reports
2	3	Computer parts, input/output units, memory, central processing unit	Knowledge	lecture	Daily and monthly exam, attendance and reports
3	3	Central Processing Unit (C.P.U), main functions, motherboard (M/B) and how to communicate with computer parts	Knowledge	lecture	Daily and monthly exam, attendance and reports

4	3	Input units (mouse/keyboard), output units (Monitor), memory (RAM, ROM)	Knowledge, skills and attitudes	lecture	Daily and monthly exam, attendance and reports
5	3	Secondary memory, hard disk parts, how to store information on the disk, information about the disk	knowledge	lecture	Daily and monthly exam, attendance and reports
6	3	Introduction to the operating system (Windows), application software	Knowledge, skill and attitude	lecture	Daily and monthly exam, attendance and reports
7	3	Practical exam (1)	knowledge	lecture	Daily and monthly exam, attendance and reports
8	3	Windows - use the mouse, minimize/maximize windows - close windows, close windows, exit windows	knowledge	lecture	Daily and monthly exam, attendance and reports
9	3	Moving windows from one place to another, controlling window size (width/height), taskbar - date, time	knowledge	lecture	Daily and monthly exam, attendance and reports
10	3	Organizing the address list - Copying images and texts - Splitting web pages - Printing web pages - Search engines - How to search for information on the network - Using the search button in the toolbar -	knowledge	lecture	Daily and monthly exam, attendance and reports
11	3	MY COMPUTER Desktop, Create a shortcut icon for an application or file, Recycle Bin - Window Explorer, Format floppy disks	knowledge	lecture	Daily and monthly exam, attendance and reports

12	3	Install files - select/choose folder, create folder - rename, delete file/folder, copy file/folder, move file/folder	knowledge	lecture	Daily and monthly exam, attendance and reports
13	3	Screen settings - screen saver, change mouse cursor - double transfer speed control	knowledge	lecture	Daily and monthly exam, attendance and reports
14	3	Software Installation and Uninstallation, Disk Information, Help Request) HELP	knowledge	lecture	Daily and monthly exam, attendance and reports
15	3	Practical exam (1)	knowledge	lecture	Daily and monthly exam, attendance and reports

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Computer basics and office applications (Part forth) / Ziad Muhammad Aboudi, Ghassan Hamid Abdel Majeed, Mustafa Diao Al-Hass
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including
Electronic References, Websites	International journals .

Course Description Form

1. Course Name:					
English language 2 / elementary level					
2. Course Code:					
ENGL228					
3. Semester / Year:					
First semester/second year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
1 hour					
7. Course administrator's name (mention all, if more than one name)					
Name: Berevan Qader Omar Email: beree.omer@gmail.com					
8. Course Objectives					
<p>Teaching this curriculum aims to make the student familiar with the English language as it is a global language from which the student will get benefit widely in his academic life.</p> <p>This curriculum is an extension of what the student learned in the first stage.</p>					
9. Teaching and Learning Strategies					
<p>It is a semi-integrated curriculum for the elementary level that includes the basics necessary for learning the English language in a simplified way with exercises. It includes nouns, verbs, verb tenses, interrogatives, prepositions, and expression of quantities.</p>					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Verb to be (auxiliary verbs)	Knowledge	lecture	Exercise
2	1	Possessive adjectives	Knowledge	lecture	Exercise
3	1	Singular and plural	Knowledge	lecture	Exercise
4	1	Question words	Knowledge	lecture	Exercise
5	1	Tense of verbs	Knowledge	lecture	Exercise
6	1	Present simple for elementary level	Knowledge	lecture	Quiz

7	1	Present continuous for elementary level	Knowledge	lecture	Exercise
8	1	Adverb of frequency	Knowledge	lecture	Exercise
9	1	Expression of quantity	Knowledge	lecture	Exercise
10	1	How many? Some & any	Knowledge	lecture	quiz
11	1	Past simple for elementary level	Knowledge	lecture	quiz
12	1	Comparative and superlative	Knowledge	lecture	Exercise
13	1	Past continuous for elementary level	Knowledge	lecture	Exercise
14	1	Preposition	Knowledge	lecture	Exercise
15	1	Irregular verbs	Knowledge	lecture	Quiz

11.Course Evaluation

Semester endeavor (40 marks): 15 marks for the first month exam + 5 marks for quiz
15 marks for second month exam + 5 marks for quiz
Final exam (60 marks)

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	New headway plus (elementary student book written by : Liz and John Soars / Oxford university press
Main references (sources)	Cambridge press
Recommended books and references (scientific journals, reports...)	My English library website
Electronic References, Websites	You tube and some useful websites

Course Description Form

1. Course Name:					
Hatching and Management of Hatcheries					
2. Course Code:					
HAMA312					
3. Semester / Year:2023-2024					
29-3-2024					
4. Description Preparation Date:15-9-2023					
Definition and Types of Hatching , Stages of Embryonic Development, Hatching Machine Hatching Requirements, Factors Affecting the Hatching.					
5. Available Attendance Forms:					
Weekly					
6. Number of Credit Hours (Total) / Number of Units (Total)					
75 hours				3 units	
7. Course administrator's name (mention all, if more than one name)					
Name: Prof. Dr. Ammar Qahtan Shanoon Email: ammar.qahtan@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives			Education the students about the modern scientific methods in artificial hatching and scientific manners in hatcheries management		
9. Teaching and Learning Strategies					
Strategy		Theoretical and practical lessons and scientific travels for poultry companies with a visit to specialized laboratories			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Definition and types of hatching	Identify the parts of the hatchery	Explanation, presentation of the model and lecture	Exam
2	5	A brief history of development artificial hatching	A visit to one Hatcheries	Explanation, presentation of the model and lecture	Exam
3	5	Stages of embryos egg growth	Identify the good eggs for hatching	Explanation, presentation of the model and lecture	Exam
4	5	Machines of artificial hatching	Fumigation of hatching eggs	Explanation, presentation of the model and lecture	Exam
5	5	Hatching requirements, heat,ventilation	A visit to one breeder farms	Explanation, presentation of the model and lecture	Exam

6	5	Hatching requirements, moisture, turning	Incubating eggs in the hatching machine and observe the development of the embryo its	Explanation, presentation of the model and lecture	Exam
7	5	Fertility of breeder flock	Incubating eggs in the hatching machine	Explanation, presentation of the model and lecture	Exam
8	5	Factors affecting the fertility of breeder flock	Incubating eggs in the hatching machine	Explanation, presentation of the model and lecture	Exam
9	5	Hatchability and the method of calculation	Incubating eggs in the hatching machine	Explanation, presentation of the model and lecture	Exam
10	5	Factors affecting the hatchability, the factors affecting egg quality	Method of sorting and sexing chicks	Explanation, presentation of the model and lecture	Exam
11	5	Factors affecting hatchability, factors related to the collection, storage and transfer of hatching eggs	Vaccination, trimming beak and back toe of chicks	Explanation, presentation of the model and lecture	Exam
12	5	Factors affecting hatchability, factors related to product flock, and the cleanliness and sterilization hatchery	Showing film about the processes that take place in the hatchery	Explanation, presentation of the model and lecture	Exam
13	5	Factors affecting hatchability, factors related to the hatching machines, and embryonic mortality	Showing film about the processes that take place in the hatchery	Explanation, presentation of the model and lecture	Exam
14	5	Processes of hatching eggs from oviposition until hatched	Discuss students' reports on the hatching process	Explanation, presentation of the model and lecture	Exam
15	5	Hatcheries design and management	Discuss students' reports on the hatching process	Explanation, presentation of the model and lecture	Exam

11. Course Evaluation

- 1- Theoretical tests
- 2- Practical tests

3- Reports and studies

12. Learning and Teaching Resources

Required textbooks (curriculum books, if any)	Al- zjaji, R. J. and I. K. Ibrahim. 1981. Hatching and Management of Hatcheries.
Main references (sources)	North, M.O. 1994. Commercial chicken production manual . AVI Publishing Company. New York. Muleer, H.D. 2008 . The avian embryo and chick as laboratory animals. Colorado State University, College of Agriculture , Department of poultry science. Hatchery Management Guide .2008 . cobb-vantress.com.
Recommended books and references (scientific journals, reports...)	International journals within Scopus index
Electronic References, Websites	https://www.sciencedirect.com/book/978012407160sturkies-avian-physiology

Course Description Form

1. Course Name:					
Animal feeding					
2. Course Code:					
ANIN313					
3. Semester / Year:					
Seconed semester/ Third year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Rashed Hassan Hamed					
Email: rasheddalo@uokirkuk.edu.iq					
8. Course Objectives					
Make the student capable of the process of mixing the necessary primary nutritional elements in forming balanced animal diets that are used in animal nutrition by raising their level of knowledge.					
9. Teaching and Learning Strategies					
Make the student familiar with how to provide balanced diets according to the age stage of the animal and its type of production, at the lowest possible cost.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Animal body and food	Animal body and food	Lecture, demonstrations, interactive discussion, and practical application in the laboratory and field	Daily and monthly exam, attendance and reports
2	2	Installation of plants and their products	Installation of plants and their products	=	=
3	2	Water and its importance in nutrition	Water and its importance in nutrition	=	=
4	2	Carbohydrates - definition, classification and chemical structure	Carbohydrates - definition, classification and chemical structure	=	=
5	2	Carbohydrates - digestion, absorption and assimilation	Carbohydrates - digestion, absorption and assimilation	=	=
6	2	Carbohydrates - microbial digestion, rumen gases, and volatile fatty acids	Carbohydrates - microbial digestion, rumen gases, and volatile fatty acids	=	=
7	2	Fats - definition, classification and chemical composition	Fats - definition, classification and chemical composition	=	=

8	2	Fats - digestion, absorption, assimilation, microbial digestion and protected fats	Fats - digestion, absorption, assimilation, microbial digestion and protected fats	=	=
9	2	Proteins - definition, classification, chemical composition, and various nitrogen sources	Proteins - definition, classification, chemical composition, and various nitrogen sources	=	=
10	2	Proteins – digestion, absorption, metabolism and biosynthesis of protein	Proteins – digestion, absorption, metabolism and biosynthesis of protein	=	=
11	2	Modern technologies in estimating animal energy and protein needs	Modern technologies in estimating animal energy and protein needs	=	=
12	2	Proteins – protection from degradation in the rumen	Proteins – protection from degradation in the rumen	=	=
13	2	Proteins – Microbial protein	Proteins – Microbial protein	=	=
14	2	Vitamins and their importance in nutrition	Vitamins and their importance in nutrition	=	=
15	2	Mineral elements and their importance in nutrition	Mineral elements and their importance in nutrition	=	=

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Animal feeding
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Economy of Animal Production					
2. Course Code:					
ECAP314					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
29-3-2024					
5. Available Attendance Forms:					
mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2Hours / 3 Unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Gulala Wahab Ameen					
Email: gulalawahab@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives	<ul style="list-style-type: none"> * Make the student able to manage smart programs related to animal production with good management. * Teaching the student how to deal with the rise and fall of economic stocks. * Teaching the student how to take the necessary actions for the production process. 				
9. Teaching and Learning Strategies					
Strategy	Teaching the student to competently manage animal production projects so that he can obtain the highest possible profit of the production process and thus improving the economic situation in society.				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1 2	2	Definition of economics and its importance	Definition of economics and its importance	Lecture, demonstrations and interactive discussion	Oral and written tests, daily and monthly practical tests, and scientific reports
3 4	2 2	The relationship of economics with other sciences	The relationship of economics with other sciences	= =	= =

5	2	Demand and supply, their balance, and elasticities in animals	Demand and supply, their balance, and elasticities in animals	=	=
6					
7	2	Production and its factors	Production and its factors	=	=
8	2				
9	2	The law of tender yields and production costs. Markets	The law of tender yields and production costs. Markets	=	=
10	2				
11	2				
12	2	the first exam	the first exam	=	=
13	2	Branches of agricultural economics	Branches of agricultural economics	=	=
14					
15	2	Second exam	Second exam	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Economy of Animal Production Book
Main references (sources)	Economy of Animal Production Books
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:					
Animal Ecology & Behavior					
2. Course Code:					
ANEB315					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
29-3-2024					
5. Available Attendance Forms:					
mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2Hours / 2 Unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Gulala Wahab Ameen					
Email: gulalawahab@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives	<ul style="list-style-type: none"> *Teaching the student how to deal with all types of animals in different environments *The student understood the difference in animal behavior depending on their environments. *Teaching the student how to deal with the change that occurs in the behavior of animals when they move from one place etc. *Teaching the student the requirements that an animal needs in its environment to obtain the best growth and thus Benefit from it. 				
9. Teaching and Learning Strategies					
Strategy	Teaching the student how to control environmental factors such as light, heat, humidity, etc. for the purpose of control On animal behavior and thus increasing their benefit through increasing their production.				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Domestication, behavioral differences between species, animal welfare	Domestication, behavioral differences between species, animal welfare	Lecture, demonstrations and interactive discussion	tests, daily and monthly practical tests, and scientific reports

2	3	How are behavior problems analyzed, social behavior, animal behavior systems, general behavioral characteristics of cows, sheep and goats?	How are behavior problems analyzed, social behavior, animal behavior systems, general behavioral characteristics of cows, sheep and goats?	=	=
3	3	Reproductive behavior, sexual puberty, behavior during the reproductive cycle, hormonal control of reproductive behavior in females, silent estrus,	Reproductive behavior, sexual puberty, behavior during the reproductive cycle, hormonal control of reproductive behavior in females, silent estrus,	=	=
4	3	Hormonal control of reproductive behavior in males, reproduction in males, sexual desire in males, evaluation of the reproductive behavior of sheep, goats and cows.	Hormonal control of reproductive behavior in males, reproduction in males, sexual desire in males, evaluation of the reproductive behavior of sheep, goats and cows.	=	=
5	3	Problems with jumping or climbing in males	Problems with jumping or climbing in males	=	=
6	3	Bulls and the safety of the person who cares for them, seasonality of reproductive behavior in animals	Bulls and the safety of the person who cares for them, seasonality of reproductive behavior in animals	=	=
7	3	Behavior during childbirth, mother's behavior towards the newborn, upbringing and care, social arrangement of calves, lactation problems.	Behavior during childbirth, mother's behavior towards the newborn, upbringing and care, social arrangement of calves, lactation problems.	=	=
8	3	Production, behavior for rumination, drinking water, standing and sleeping, leadership	Production, behavior for rumination, drinking water, standing and	=	=

		and social control, problems of large herds.	sleeping, leadership and social control, problems of large herds.		
9	3	Milking and calming the milker, training the cows, managing dairy cows	Milking and calming the milker, training the cows, managing dairy cows	=	=
10	3	A general behavioral overview in poultry	A general behavioral overview in poultry	=	=
11	3	Reproduction behavior in poultry	Reproduction behavior in poultry	=	=
12	3	the first exam	the first exam	=	=
13	3	Egg production behaviour	Egg production behaviour	=	=
14	3	Other general behaviors	Other general behaviors	=	=
15	3	Second exam	Second exam	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Animal Ecology and behavior book
Main references (sources)	Animal Ecology and behavior books
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:					
Design and analysis of agricultural experiments					
2. Course Code:					
EXPD316					
3. Semester / Year:					
Second season / third year					
4. Description Preparation Date:					
2024-3-17					
5. Available Attendance Forms:					
weekly					
6. Number of Credit Hours (Total) / Number of Units (Total)					
30 hour / 3 unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Asst. Prof. Dr. Ismail Younis Hasan Email= ismail.younis@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> Learn about some statistical concepts Increasing students' knowledge of important statistical measures, which are measures of central tendency and measures of dispersion Students' knowledge of methods for designing and analyzing agricultural experiments, including one-way experiments Identify methods for comparing averages and determining significance Identify methods for designing factorial experiments 			
9. Teaching and Learning Strategies					
Strategy		<ul style="list-style-type: none"> Explanation and clarification Giving lectures Use presentation tools Play videos and photos Daily and monthly exams 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Some statistical terms and concepts related to the science of designing and analyzing experiments	Some statistical terms and concepts related to the science of designing and analyzing experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
2	5	Completely randomized design	Completely randomized design	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
3	5	Completely randomized design	Completely randomized design	Lecture, demonstrations	daily and monthly practical tests,

				and interactive discussion	
4	5	Completely randomized design	Completely randomized design	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
5	5	Multiple comparisons of means	Multiple comparisons of means	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
6	5	Multiple comparisons of means	Multiple comparisons of means	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
7	5	Randomized complete block design	Randomized complete block design	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
8	5	Randomized complete block design	Randomized complete block design	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
9	5	Latin square design	Latin square design	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
10	5	Multi-factor experiments	Multi-factor experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
11	5	Multi-factor experiments	Multi-factor experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
12	5	Multi-factor experiments	Multi-factor experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
13	5	Multi-factor experiments	Multi-factor experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
14	5	Multi-factor experiments	Multi-factor experiments	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,
15	5	Analysis of covariance	Analysis of covariance	Lecture, demonstrations and interactive discussion	daily and monthly practical tests,

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Design and analysis of agricultural experiments - written by Dr. Humbled Mahmoud Al-Rawi
Main references (sources)	Design and analysis of agricultural experiments - written by Dr. Humbled Mahmoud Al-Rawi
Recommended books and references (scientific journals, reports...)	International journals within Scopus containers
Electronic References, Websites	https://www.mdpi.com/journal/agriculture/special_issues/2G5YP36HYR

Course Description Form

1. Course Name:					
poultry physiology					
2. Course Code:					
PHYP321					
3. Semester / Year:2023-2024					
Third year / second semester					
4. Description Preparation Date:					
15-1-2023					
5. Available Attendance Forms:					
weekly					
6. Number of Credit Hours (Total) / Number of Units (Total)					
75 hours			3 units		
7. Course administrator's name (mention all, if more than one name)					
Name: Prof. Dr. Ammar Qahtan shanoon					
Email: ammar.qahtan@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		Make the student able "to understand the work of the body–target devices and how they work and how to maintain the health status of bird's body.....			
9. Teaching and Learning Strategies					
Strategy		Theoretical and practical lessons and scientific travels for poultry companies with a visit to specialized laboratories			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	5	Introduction to physiology	Principles of science	Explanation, presentation of model and lecture	Exam
2	5	The most important fluids in the body	Physiology	Explanation, presentation of model and lecture	Exam
3	5	Blood and composition	Blood and lymph	Explanation, presentation of model and lecture	Exam
4	5	Blood functions	Different cellular structure of blood	Explanation, presentation of model and lecture	Exam
5	5	Lymphatic system	Transport and respiration	Explanation, presentation of model and lecture	Exam

6	5	Circulatory device	Its components are lymph nodes	Explanation, presentation of model and lecture	Exam
7	5	Urinary tract	heart and blood vessels	Explanation, presentation of model and lecture	Exam
8	5	Respiratory system	The trachea and components	Explanation, presentation of model and lecture	Exam
9	5	Digestive	Lungs and air sacs	Explanation, presentation of model and lecture	Exam
10	5	Male reproductive system	Its most important parts	Explanation, presentation of model and lecture	Exam
11	5	The female reproductive system	Testicles and duct vessels	Explanation, presentation of model and lecture	Exam
12	5	Thermoregulation device	Ovary and its components	Explanation, presentation of model and lecture	Exam
13	5	Endocrine system	How to thermal balance	Explanation, presentation of model and lecture	Exam
14	5	immune system	Endocrinology	Explanation, presentation of model and lecture	Exam
15	5	Skeletal system	Types of immunity	Explanation, presentation of model and lecture	Exam

11. Course Evaluation

- 1- Theoretical tests
- 2- Practical tests
- 3- Reports and studies

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Physiology of poultry birds Written by: Prof. Dr. Diaa Al-Hassani
Main references (sources)	
Recommended books and references (scientific journals, reports...)	International journals within Scopus index
Electronic References, Websites	Many websites

Course Description Form

1. Course Name:					
Feed and Rations					
2. Course Code:					
FODD323					
3. Semester / Year:					
First semester/ Third year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(5) Hours, Number of units (3)					
7. Course administrator's name (mention all, if more than one name)					
Name: Rashed Hassan Hamed					
Email: rasheddalo@uokirkuk.edu.iq					
8. Course Objectives					
<ul style="list-style-type: none"> • To make the student able to conduct a chemical analysis of feed materials and prepare a balanced and economical diet for ruminants by mixing the primary nutritional elements of the feed materials, each according to age, type, and production stage. 					
9. Teaching and Learning Strategies					
. Teaching the student to prepare suitable diets for feeding ruminants according to the type of animal, age, type of production, and the available feed materials at the lowest possible cost.					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Introduction and general concepts	Introduction and general concepts	Lecture, demonstrations, interactive discussion, and practical application in the laboratory and field	Daily and monthly exam, attendance and reports
2	2	Feeds and their classification	Feeds and their classification	=	=
3	2	Composition of feed materials and their specifications	Composition of feed materials and their specifications	=	=
4	2	Protein supplements and liquid supplements	Protein supplements and liquid supplements	=	=
5	2	Food intake and factors affecting it	Food intake and factors affecting it	=	=
6	2	Digestibility and methods for estimating it	Digestibility and methods for estimating it	=	=
7	2	Digestion coefficients and their calculations	Digestion coefficients and their calculations	=	=
8	2	Food energy and its divisions	Food energy and its divisions	=	=
9	2	Feed evaluation systems based on energy	Feed evaluation systems based on energy	=	=

10	2	Nutritional ratio and its divisions	Nutritional ratio and its divisions	=	=
11	2	Kelner's starch equivalent	Kelner's starch equivalent	=	=
12	2	Scandinavian unity	Scandinavian unity	=	=
13	2	Different treatments and their effect on the nutritional value of feed materials	Different treatments and their effect on the nutritional value of feed materials	=	=
14	2	Nutritional needs	Nutritional needs	=	=
15	2	Minerals and vitamins	Minerals and vitamins	=	=

11.Course Evaluation

The grade for the semester examination is (40%), divided into (10) grades for daily preparation, participation, and submitting reports, (30) grades for monthly exams, with two monthly exams for each exam (15) grades, and the grade for the final exam is (60%).

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Lectures prepared by the teacher based on relevant books and references.
Main references (sources)	Feed and Rations
Recommended books and references (scientific journals, reports...)	Iraqi academic scientific journals, including Kirkuk University Journal of Agricultural Sciences
Electronic References, Websites	International journals included in Scopus

Course Description Form

1. Course Name:					
Animal Breeding					
2. Course Code:					
ANIB325					
3. Semester / Year:					
Third year / first semester					
4. Description Preparation Date:					
28 / 3 / 2024					
5. Available Attendance Forms:					
Weekly					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 hour / 3 unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Asst. Prof. Dr. Ismail Younis Hasan					
Email: ismail.younis@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> Identifying breeding and improvement methods for farm animals Students' knowledge of means of improving animal productivity of meat and milk Learn about the history of the development of education, improvement, and evolutionary theories Identify the methods and means of election Increasing students' skills on ways to increase the productivity of agricultural animals 			
9. Teaching and Learning Strategies					
Strategy		<ul style="list-style-type: none"> Explanation and clarification Giving lectures Use presentation tools Play videos and photos Daily and monthly exams 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	History of the development of pedagogy and improvement	A historical overview of the development of animal breeding and improvement	Lecture, explanation and presentations	Exam
2	3	The importance of environment and genetics	Similarity and contrast - the effect	Lecture, explanation and presentations	Exam

			of the common environment		
3	3	Quantitative and qualitative characteristics	Quantitative and qualitative characteristics and the differences between them	Lecture, explanation and presentations	Exam
4	3	Gene duplication	Gene duplication	Lecture, explanation and presentations	Exam
5	3	Gene duplication	Factors affecting gene redundancy	Lecture, explanation and presentations	Exam
6	3	Genetic equivalent	Genetic equivalent	Lecture, explanation and presentations	Exam
7	3	Iterative factor	Iterative factor	Lecture, explanation and presentations	Exam
8	3	Genetic association	Genetic association	Lecture, explanation and presentations	Exam
9	3	Selection	Individual selection – repeated observations, lineage selection, familial selection, progeny testing	Lecture, explanation and presentations	Exam
10	3	Selection and its types	Methods of election for more than one category - election in stages, election according to independent levels - electoral guide	Lecture, explanation and presentations	Exam
11	3	Election and election methods	Election - types of election	Lecture, explanation and presentations	Exam
12	3	Educational value	Educational value	Lecture, explanation and presentations	Exam
13	3	Internal education	Internal education (relative education) - internal education coefficient and degree of kinship, traditional education	Lecture, explanation and presentations	Exam
14	3	Outdoor education	External breeding (cross-breeding) – external mixing, mixing of breeds	Lecture, explanation and presentations	Exam

			(hybrid vigor), grading		
15	3	Modern techniques in education and improvement	Using QTL genetic loci technology to improve the economic traits of farm animals	Lecture, explanation and presentations	Exam

11. Course Evaluation

- 1- Theoretical tests
- 2- Practical tests
- 3- Reports and studies

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	animal breeding and improvement - written by Salah Jalal and Hassan Karam
Main references (sources)	animal breeding and improvement - written by Salah Jalal and Hassan Karam
Recommended books and references (scientific journals, reports...)	International journals within Scopus containers
Electronic References, Websites	https://onlinelibrary.wiley.com/journal/14390388

Course Description Form

1. Course Name:	English language 3/ pre- intermediate level				
2. Course Code:	ENGL327				
3. Semester / Year:	First semester/ third year				
4. Description Preparation Date:	31/03/2024				
5. Available Attendance Forms:	Mandatory				
6. Number of Credit Hours (Total) / Number of Units (Total)	1 hour				
7. Course administrator's name (mention all, if more than one name)	Name: Berevan Qader Omar Email: beree.omer@gmail.com				
8. Course Objectives	<p>Teaching this curriculum aims to make the student familiar with the English language as it is a global language from which the student will benefit widely in his academic life. This curriculum is an extension of what the student learned in the first and second stages.</p>				
9. Teaching and Learning Strategies	<p>It is a semi-integrated curriculum for the pre-intermediate level, which includes the necessary basics for learning the English language for the pre-intermediate level, along with exercises. It includes interrogative articles and four types of verb tenses, with an explanation of each tense in the form of the affirmative, negative, and question. It also includes how to Expressing quantities, articles, and indefinite in the English language, comparative and superlative adjectives, and identifying verb forms in the English language.</p>				
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Question words	Knowledge	lecture	Exercise
2	1	Present simple for pre- intermediate level	Knowledge	lecture	Exercise

3	1	Present continuous for pre- intermediate level	Knowledge	lecture	Exercise
4	1	Past simple for pre- intermediate level	Knowledge	lecture	Exercise
5	1	Past continuous for pre- intermediate level	Knowledge	lecture	Exercise
6	1	Expression of quantity	Knowledge	lecture	Quiz
7	1	Articles	Knowledge	lecture	Exercise
8	1	Comparative and superlative	Knowledge	lecture	Exercise
9	1	Have to	Knowledge	lecture	Exercise
10	1	Introduction to modal auxiliary verbs	Knowledge	lecture	quiz
11	1	Should	Knowledge	lecture	quiz
12	1	Must	Knowledge	lecture	Exercise
13	1	Verb pattern 1	Knowledge	lecture	Exercise
14	1	Verb pattern 2	Knowledge	lecture	Exercise
15	1	Irregular verbs	Knowledge	lecture	Quiz

11.Course Evaluation

Semester endeavor (40 marks): 15 marks for the first month exam + 5 marks for quiz
15 marks for second month exam + 5 marks for quiz
Final exam (60 marks)

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	New headway plus (elementary student book) / written by : John and Liz Soars / Oxford university press
Main references (sources)	Cambridge press
Recommended books and references (scientific journals, reports...)	My English library website
Electronic References, Websites	You tube and some useful websites

Course Description Form

1. Course Name:					
Poultry Nutrition					
2. Course Code:					
POUN411					
3. Semester / Year:					
quarterly					
4. Description Preparation Date:					
Mandatory					
5. Available Attendance Forms:					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 / 3					
7. Course administrator's name (mention all, if more than one name)					
Name: dr.Qana huseein ameen AL-Jabari Email: dr_qanaameen@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> • Teaching the student to create balanced and economical diets for poultry birds by knowing: • Needs of poultry birds according to age and type of production. • Feed materials used and their chemical composition • Ways to form relationships 			
9. Teaching and Learning Strategies					
Strategy		Teaching the student to prepare suitable diets for feeding poultry birds according to the type of bird, age, type of production, and the available feed materials at the lowest possible cost.			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Identifying energy sources - its division influencing factors	Energy - its sources - its division - influencing factors	Lecture, demonstrations and interactive discussion	Oral and written tests, daily and monthly practical tests, and scientific reports
2	2	Identifying proteins - their types and classification, the effect of their excess and deficiency	Proteins - their types and classification, the effect of their excess and deficiency	=	=
3	2	Knowledge of proteins and factors affecting their utilization	Proteins and factors affecting their utilization	=	=
4	2	Identify vitamins - their	Vitamins - their classification and	=	=

		classification and influencing factors	factors affecting their requirements		
5	2	Identify minerals, classify them, influence their excess and deficiency	Minerals are classified according to the effect of their excess and deficiency	=	=
6	2	Learn about water, its importance, functions, sources and quality	Water, its importance, functions, sources and quality	=	=
7	2				
8	2	Learn about digestion and metabolism - the digestive system - its functions	Digestion and metabolism - the digestive system - its functions	=	=
9	2	Identify the final products of digestion - the factors affecting digestion	End products of digestion - factors affecting digestion	=	=
10	2	Identify primary feed materials, their sources and types	Primary feed materials, their sources and types	=	=
11	2	Identify vitamins, mineral elements, feed additives	Vitamins, mineral elements and feed additives	=	=
12	2	Identify feed concentrates, mixtures, their production requirements	Feed concentrates, mixtures and their production requirements	=	=
13	2	Learn about the production and manufacturing of feed, feed factory, its importance and divisions	production and manufacturing of feed, feed factory, its importance and its divisions	=	=

14	2	Learn about plant maintenance formula formation, synthesis and control	plant maintenance, formula formation, synthesis and control	=	=
15	2	Identifying contamination of feed materials, poisoning, types, prevention	contamination of feed materials, poisoning, its types, and prevention	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Poultry feeding book
Main references (sources)	Poultry feeding books
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	

Course Description Form

1. Course Name:					
Poultry Breeding					
2. Course Code:					
POUB412					
3. Semester / Year:					
Fourth year / first semester					
4. Description Preparation Date:					
28 / 3 / 2024					
5. Available Attendance Forms:					
Weekly					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 hour / 3 unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Asst. Prof. Dr. Ismail Younis Hasan					
Email: ismail.younis@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> • Identifying breeding and improvement methods for poultry birds • Students' knowledge of means of improving poultry productivity of meat and eggs • Learn about the history of the development of education, improvement, and evolutionary theories • Students' knowledge of theories of evolution and origin of birds • Identify the methods and means of election • Increasing students' skills on ways to increase the productivity of poultry flocks 			
9. Teaching and Learning Strategies					
Strategy		<ul style="list-style-type: none"> • Explanation and clarification • Giving lectures • Use presentation tools • Play videos and photos • Daily and monthly exams 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Poultry breeding and improvement	Development of the science of poultry breeding and improvement	Lecture, explanation and presentations	Exam

2	3	General principles of genetics	Degree of dominance of the gene - Gene interaction -	Lecture, explanation and presentations	Exam
3	3	Sex-linked genetics	Sex chromosomes and their systems - sex determination	Lecture, explanation and presentations	Exam
4	3	Genetic traits	Sex-linked traits	Lecture, explanation and presentations	Exam
5	3	Inheritance of feather color	Color determinations: Distribution of color on the bird's body, determinations of color distribution on the feather, and their inheritance.	Lecture, explanation and presentations	Exam
6	3	Genetic mutations in feathers	Feather deformities and modifications. Inheritance of feather growth	Lecture, explanation and presentations	Exam
7	3		First exam		
8	3	Improve herds	Gene frequency and factors affecting it	Lecture, explanation and presentations	Exam
9	3	Ways to improve herd productivity	Estimating the genetic parameters of the clan	Lecture, explanation and presentations	Exam
10	3	Genetic equivalent	First: Genetic equivalent: its definition - its importance and uses - methods for estimating it	Lecture, explanation and presentations	Exam
11	3	Genetic association	Second: Genetic, environmental, and phenotypic correlation: its definition, importance, and uses	Lecture, explanation and presentations	Exam
12	3	Selection	Selection: its definition - selection for one trait - selection for several traits	Lecture, explanation and presentations	Exam
13	3	Mating	Mating systems	Lecture, explanation and presentations	Exam
14	3	Internal education	First: inbreeding: - Types of internal education - Harmful effects of internal education - Types of internal education	Lecture, explanation and presentations	Exam

15	3	Testing students' learning skills	Second exam	Lecture, explanation and presentations	Exam
11. Course Evaluation					
1- Theoretical tests 2- Practical tests 3- Reports and studies					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if a			Breeding and improving poultry - written by Dr. Talal Har and Dr. Nahil Muhammad		
Main references (sources)			Breeding and improving poultry - written by Dr. Talal Har and Dr. Nahil Muhammad		
Recommended books and references (scientific journals, reports...)			International journals within Scopus containers		
Electronic References, Websites			https://www.mdpi.com/journal/genes/special_issues/15UXHA66J7		

Course Description Form

1. Course Name:					
Sheep & Goat Production					
2. Course Code:					
SHGP413					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
28/3/2024					
5. Available Attendance Forms:					
Attendance is mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 hours / 3 units					
7. Course administrator's name (mention all, if more than one name)					
Name: sarmad talib abdulazeez					
Email: sarmad.talib@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		Introducing the student to how to raise sheep and goats, establishing lamb fattening projects, field operations that take place, feeding them, and increasing their numbers and productivity by following successful practical and scientific methods.			
9. Teaching and Learning Strategies					
Strategy		<ol style="list-style-type: none"> 1. Identify the economic importance of raising sheep and goats. 2. Learn about the classification of sheep and goats. 3. Learn about the methods of producing wool and hair from sheep and goats. 4. Identify intensive production systems in sheep and goats. 5. Learn how to provide the nutritional needs of sheep and goats. 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Identify the economic importance of raising sheep and goats	The economic importance of raising sheep and goats	Lecture, demonstrations and interactive discussion	tests, daily and monthly practical tests, and scientific reports
2	2	Learn about the classification of sheep and goats	Classification of sheep and goats	=	=

3	2	Identify the types of feed materials used in feeding sheep and goats	Feeding sheep and goats	=	=
4	2	Identify the reproductive system	Reproduction in sheep and goats (part one)	=	=
5	2	Identify the reproductive system	Reproduction in sheep and goats (part two)	=	=
6	2	Learn about how meat is produced from sheep and goats	Growth and production of red meat	=	=
7	2	Identify the patterns of meat production from sheep and goats	Red meat production patterns	=	=
8	2		First semester exam	=	=
9	2	Discussing the mechanisms of wool formation from sheep and goats	Wool and hair production	=	=
10	2	Identify the mechanics of milk production	Milk production	=	=
11	2	Identify the production patterns of sheep and goats	Intensive production	=	=
12	2	Learn about methods and systems for breastfeeding and weaning lambs	Breastfeeding and weaning of lambs	=	=
13	2	Identify the types and how to use milk substitutes in feeding lambs	The use of milk substitutes in feeding lambs	=	=
14	2	Learn about the methods and basics of establishing lamb fattening projects	Establishing lamb fattening projects	=	=
15	2	Discussing lamb fattening systems	Fattening lambs	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Sheep and goat production Written by: dr. Jalal Elia
Main references (sources)	
Recommended books and references (scientific journals, reports...)	International journals within Scopus index
Electronic References, Websites	Many websites

Course Description Form

1. Course Name:					
Management and production of poultry birds					
2. Course Code:					
POUM415					
3. Semester / Year:					
quarterly					
4. Description Preparation Date:					
2024 /3/4					
5. Available Attendance Forms:					
Is mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 /3					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr.Mohammed Abdulraheem Mohammed					
Email: mohammed_abdulraheem@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		Establishing broiler and layer chicken breeding projects and contributing increasing the national production of these products			
9. Teaching and Learning Strategies					
Strategy		Preparing agricultural engineers with extensive experience (theoretically and practical) and with a modern scientific knowledge in this field			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Poultry science and concept of poultry project management	Poultry science and the concept of poultry project management	Lecture, demonstrations, interactive discussions	Oral and written tests, daily and monthly practical tests, scientific reports
2	2	The importance of poultry projects (egg and meat production projects)	The importance of poultry projects (egg and meat production projects)	=	=
3	2	The internal organs of the chicken and their functions (digestive, male and female reproductive, and components of the egg)	The internal organs of the chicken and their functions (digestive, male and female reproductive, and components of the egg)	=	=
4	2	Types of poultry housing and breeding supplies	Types of poultry housing and breeding supplies	=	=
5	2	Hatching and hatchery management (selection of hatchery egg specificatio	Hatching hatchery management (selection	=	=

		treatment of hatch eggs before and during hatching, stages embryonic development, types hatcheries,)	hatching specifications treatment hatching e before during hatching stages embryonic development, types hatcheries,)		
6	2	Management production of broiler (types of modern breeds and their specifications, incubation and care chicks, breeding care of broiler breeding systems broiler nutrition	Management production of broiler (types of modern breeds and their specifications, incubation and care chicks, breeding care of broilers, breeding systems, broiler nutrition	=	=
7	2	Management production of laying hens (types of modern breeds and their specifications, incubation and care laying hens, breeding systems, feeding laying hens during stages of growth production, calculations of production ratios)	Management production of laying hens (types of modern breeds and their specifications, incubation and care laying hens, breeding systems, feeding laying hens during the stages, growth and production calculations of production ratios)		
8	2	Factors affecting fertility and hatch rates, hatch problems	Factors affecting fertility and hatching rates hatch hatching problems	=	=
9	2	Management maternal flocks (broiler mothers and eggs)	Management maternal flocks (broiler mothers and eggs)	=	=
10	2	Raising turkeys, ducks and geese.	Raising turkeys, ducks and geese.	=	=
11	2	Managing poultry fields in hot climates	Managing poultry fields in hot climates	=	=
12	2	Managing feed factories and preparing feed	Managing feed factories and preparing feed	=	=

13	2	Poultry diseases & methods of prevention and treatment	Poultry diseases & methods of prevention and treatment	=	=
14	2	Quail breeding	Quail breeding	=	=
15	2	Theoretical exam	Theoretical exam	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Poultry management by Dr. Suhaib Saeed Alwan Zubaidi
Main references (sources)	Poultry management by Dr. Suhaib Saeed Alwan Zubaidi
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Illustrative films about designing poultry halls YouTube

Course Description Form

1. Course Name:					
Pasture management					
2. Course Code:					
PAMA416					
3. Semester / Year:					
second semester/ fourth year					
4. Description Preparation Date:					
1/4/2024					
5. Available Attendance Forms:					
Attendance at lecture is mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
(2 hours theory) Number of units (2)					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr.abbas Abdulla taha \ Email: abbasabdulla@uokirkuk.edu.iq					
8. Course Objectives					
<ul style="list-style-type: none"> - Teaching students the basic principles of managing natural and domestic pastures - Teaching students about the types of forage crops and their plant families - Teaching students the importance of pasture plants and their economic value - Teaching students how to exploit pastures, organize grazing operations, and know the nutritional value of plants. 					
9. Teaching and Learning Strategies					
<ul style="list-style-type: none"> -follow the lecture methods and use modern presentation methods -direct dialogue with student by asking them questions -Assigning student to homework (writing scientific reports) 					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Cognitive	Objectives of pasture management, the effect of grazing on the structure of vegetation cover	Lecture Discussion	Daily attendance and exam
2	2	Cognitive	Characteristics of pastoral plants, tree grazing	Lecture Discussion	Daily attendance and exam
3	2	Cognitive	Natural pastures, environmental factors affecting plants	Lecture Discussion	Daily attendance and exam
4	2	Cognitive	Division of forage and pasture plants	Lecture Discussion	Daily attendance and exam
5	2	Cognitive	Types of pastures, grazing areas in Iraq	Lecture Discussion	Daily attendance and exam

6	2	Cognitive	Exam1	Lecture Discussion	Daily attendance and exam
7	2	Cognitive	How to improve pasture plants in desert and dry areas	Lecture Discussion	Daily attendance and exam
8	2	Cognitive	Grazing systems and their various effects	Lecture Discussion	Daily attendance and exam
9	2	Cognitive	Economic exploitation of pasture plant growth	Lecture Discussion	Daily attendance and exam
10	2	Cognitive	Plant and its relationship to soil and water conservation	Lecture Discussion	Daily attendance and exam
11	2	Cognitive	Re-seeding natural pastures, proper exploitation	Lecture Discussion	Daily attendance and exam
12	2	Cognitive	Exam2	Lecture Discussion	Daily attendance and exam
13	2	Cognitive	Condition of natural pastures, classification of pastures	Lecture Discussion	Daily attendance and exam
14	2	Cognitive	Organizing grazing and livestock management	Lecture Discussion	Daily attendance and exam
15	2	Cognitive	Methods for estimating pasture productivity, nutritional value of pastures	Lecture Discussion	Daily attendance and exam

11.Course Evaluation

Final theoretical exam	Final practical test	Daily theoretical tests	Practical semester tests	Theoretical semester tests
60	0	10	0	30

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	Al-Takriti, Ramadan Al-Tayef Ahmed and Abba Mahdi Hassan. Management of natural pastures.
Main references (sources)	Scientific journals in agricultural and economic specialties
Recommended books and references (scientific journals, reports...)	International journals within international classifications and standards
Electronic References, Websites	International journals within international classifications and standards

Course Description Form

1. Course Name:					
Poultry diseases					
2. Course Code:					
POUD421					
3. Semester / Year:					
quarterly					
4. Description Preparation Date:					
2024 /3/4					
5. Available Attendance Forms:					
Is mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 /3					
7. Course administrator's name (mention all, if more than one name)					
Name: Dr.Mohammed Abdulraheem Mohammed					
Email: mohammed_abdulraheem@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		Learn about all types of sawmill diseases in poultry birds, including bacterial, viral, and fungal diseases, and how to prevent them through vaccines for viral diseases and treatments for bacterial and fungal diseases.			
9. Teaching and Learning Strategies					
Strategy		1 Prevention of diseases affecting poultry 2- Giving vaccines scientifically to avoid the occurrence of diseases 3- How to treat bacterial diseases that can be treated			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Disease, infection factors and clinical signs	Disease, infection factors, and clinical signs	Lecture, demonstrations, interactive discussion	Oral and written tests, daily and monthly practical tests, scientific reports
2	2	Infectious diseases in chickens	Infectious diseases in chickens	=	=
3	2	Yolk cystitis and pleurodesis	Yolk cystitis and pleurodesis	=	=
4	2	Chicken typhoid/chicken paratyphoid	Chicken typhoid/chicken paratyphoid	=	=
5	2	Infectious coryza/pou cholera	Infectious coryza/pou cholera	=	=
6	2	Different cases of e.coli	Different cases of e.coli	=	=
7	2	Colonic granulomas in chickens	Colonic granulomas in chickens	=	=
8	2	Oviduct inflammation/synovitis	Oviduct inflammation/synovitis	=	=
9	2	Avian flowering/Vibr hepatitis	Avian flowering/Vibr hepatitis	=	=
10	2	Avian Newcastle disease	Avian Newcastle disease	=	=
11	2	Inflammation of the larynx and bronchus	Inflammation of larynx and bronchus	=	=

12	2	Camboro/birdpox	Camboro/birdpox	=	=
13	2	Mark/Avian coccidiosis	Mark/Avian coccidios	=	=
14	2	Hemorrhagic enteritis	Hemorrhagic enteritis	=	=
15	2	Theoretical exam	Theoretical exam	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Poultry diseases. Fouad Ibrahim Al-Sheikhly, second edition, 2004
Main references (sources)	Preventive poultry medicine. Turkish Saraqbi. 2004
Recommended books and references (scientific journals, reports...)	
Electronic References, Websites	Illustrative films on YouTube

Course Description Form

1. Course Name:					
Molecular Biology					
2. Course Code:					
MOLL422					
3. Semester / Year:					
Fourth year / first semester					
4. Description Preparation Date:					
28 / 3 / 2024					
5. Available Attendance Forms:					
Weekly					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 hour / 3 unit					
7. Course administrator's name (mention all, if more than one name)					
Name: Asst. Prof. Dr. Ismail Younis Hasan					
Email: ismail.younis@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		<ul style="list-style-type: none"> Know the cell components of cellular organelles Developing students' abilities to understand genetic material and its importance Developing students' abilities on how to manufacture proteins through cloning and translation processes Develop students' understanding of the main differences between prokaryotic and eukaryotic DNA A historical narration of the development of molecular life science and the most important discoveries that changed the course of science in this field 			
9. Teaching and Learning Strategies					
Strategy		<ul style="list-style-type: none"> Explanation and clarification Giving lectures Use presentation tools Play videos and photos Daily and monthly exams 			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3	Description of DNA	Historical stages of achieving the science of genetic engineering	Lecture, explanation and presentations	Exam

2	3	DNA regulation	Genetic information is stored in a chemical compound	Lecture, explanation and presentations	Exam
3	3	Requirements for applying genetic engineering technologies	Specific cutting enzymes - transport enzymes - carnivorous enzymes	Lecture, explanation and presentations	Exam
4	3	Properties of DNA	What is meant by A privation number of chromosome?	Lecture, explanation and presentations	Exam
5	3	What are genes?	Methods of isolating and separating genes	Lecture, explanation and presentations	Exam
6	3	Embryo transfer techniques	Embryo transfer and sex determination	Lecture, explanation and presentations	Exam
7	3	Sex determination techniques	sex determination		
8	3	Genetic mutations	What are the factors that help the phenomenon of transformation occur? The stages in which the phenomenon of coupling occurs	Lecture, explanation and presentations	Exam
9	3	Determine the level of learning	First semester exam	Lecture, explanation and presentations	Exam
10	3	Genetic engineering theories	What are plasmids and what are the theories of their emergence and development?	Lecture, explanation and presentations	Exam
11	3	Fertilization technologies	In vitro fertilization	Lecture, explanation and presentations	Exam
12	3	Mutations and their importance	The concept of mutation and the most important types of mutagens - diagnosis of genetic diseases	Lecture, explanation and presentations	Exam
13	3	DNA repair	How is a defect in DNA repaired?	Lecture, explanation and presentations	Exam
14	3	DNA repair	Microsatellites and theories of their formation + comet assay to detect damage to DNA	Lecture, explanation and presentations	Exam
15	3	Gene detection techniques	PCR technology and extracting DNA from	Lecture, explanation and presentations	Exam

			the rest of the cell components		
11. Course Evaluation					
1- Theoretical tests 2- Practical tests 3- Reports and studies					
12. Learning and Teaching Resources					
Required textbooks (curricular books, if a			Molecular Biology - Written by Dr. Nashat Ghaleb Mustaf		
Main references (sources)			Molecular Biology - Written by Dr. Nashat Ghaleb Mustaf		
Recommended books and references (scientific journals, reports...)			International journals within Scopus containers		
Electronic References, Websites			https://www.sciencedirect.com/journal/gene		

Course Description Form

1. Course Name:					
Milk Cattle Production					
2. Course Code:					
MILC423					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
28/3/2024					
5. Available Attendance Forms:					
Attendance is mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
5 hours / 3 units					
7. Course administrator's name (mention all, if more than one name)					
Name: sarmad talib abdulazeez					
Email: sarmad.talib@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		<ol style="list-style-type: none"> 1. Study the most important criteria for evaluating dairy cows. 2. Study the most important genetic and environmental factors affecting milk production. 3. Identify the most important methods for hormonal control of the development of the mammary gland. 4. Study the most important field operations that take place in dairy cattle fields. 			
9. Teaching and Learning Strategies					
Strategy		Dairy cattle production examines the economic importance of animal products, the importance of raising them, and the reasons for their low productivity, in addition to identifying the genetic and environmental factors affecting milk production.			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Identify the economic importance of animal products	The economic importance of animal products	Lecture, demonstrations and interactive discussion	tests, daily and monthly tests, and reports
2	2	Learn about the importance of	The importance of livestock breeding	=	=

		raising dairy and beef cows			
3	2	Keeping up with modern livestock developments	The modern development of livestock in the world	=	=
4	2	Identify the reasons for the decline in livestock productivity in Iraq	Factors that led to a decline in livestock production in Iraq	=	=
5	2	Discussing methods of evaluating cows	Evaluation of dairy cows	=	=
6	2	Identify the types of dairy cattle farms	Spread of milk production farm	=	=
7	2		First exam	=	=
8	2	Identify the reproductive system in males and females	Reproduction in livestock	=	=
9	2	Identify the most important genetic factors that affect milk production	Genetic factors affecting milk production	=	=
10	2	Identify the most important environmental factors that affect milk production	Environmental factors affecting milk production	=	=
11	2	Identifying the physiological changes in the mammary gland in cattle	Mammary gland development in cattle	=	=
12	2	Identify the mechanism of hormonal control	Hormonal control of mammary gland development	=	=
13	2	Learn about the process of milk formation	Milk formation process	=	=
14	2	Identify the mechanisms of controlling milk production	Hormonal control of milk production	=	=
15	2		Second exam	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	Milk cattle production Written by: dr. Natiq Al-Qudsi
Main references (sources)	
Recommended books and references (scientific journals, reports...)	International journals within Scopus index
Electronic References, Websites	Many websites

Course Description Form

1. Course Name:					
Production of Buffalo					
2. Course Code:					
PROB425					
3. Semester / Year:					
Semester					
4. Description Preparation Date:					
28/3/2024					
5. Available Attendance Forms:					
Attendance is mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
2 hours / 2 units					
7. Course administrator's name (mention all, if more than one name)					
Name: sarmad talib abdulazeez Email: sarmad.talib@uokirkuk.edu.iq					
8. Course Objectives					
Course Objectives		<ol style="list-style-type: none"> 1. Study the most important purebred breeds in the world. 2. Study of reproduction in male and female buffalo. 3. Learn about how milk is produced in buffalo. 4. Study of meat production methods in buffalo. 5. Knowing how to fatten buffalo calves. 6. Common infectious diseases in buffalo. 7. Different management systems in buffalo. 			
9. Teaching and Learning Strategies					
Strategy		Buffalo production examines identifying buffalo breeds in the world and how to manage them, buffalo nutrition, and how reproduction occurs in male and female buffalo and their reproduction.			
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	2	Learn about the origin, history, preparation and classification of buffalo	The origin and history of the buffalo, the numbers of buffalo in Iraq and the world, the classification of the buffalo in the animal kingdom	Lecture, demonstrations and interactive discussion	tests, daily and monthly tests, and reports
2	2	Identify the basic differences between buffalo breeds	Genetic differences between Asian and African buffalo, wild buffalo breeds,	=	=

			domesticated buffalo breeds in the world		
3	2	Identify the reproductive system in buffalo and the causes of its decline	Reproduction in female buffalo, causes of low reproductive efficiency in buffalo	=	=
4	2	Learn about early pregnancy screening methods and standardization of estrus	Methods of checking pregnancy in buffalo, standardization of teller in buffalo	=	=
5	2	Identifying the reproductive system in male buffalo and the characteristics of semen	Reproduction in male buffalo, anatomy of the male reproductive system of buffalo, characteristics of buffalo semen, sexual desire in male buffalo	=	=
6	2		First semester exam	=	=
7	2	Learn about how buffaloes are fed, the stages of rumen development, the composition of buffalo diets, the production of milk from buffaloes and the factors affecting them.	Nutrition and diet in buffalo, characteristics of the digestive system of buffalo, stages of rumen development in buffalo, the proportion of coarse and concentrated feed in buffalo diets, milk production diets for buffalo, milk production in buffalo, components of buffalo milk compared to cows, factors affecting milk production in buffalo, differences In milk components in different breeds	=	=
8	2	Identifying the components of buffalo milk compared to cows, the most important differences in milk components between breeds	Milk production in buffalo, components of buffalo milk compared to cows, factors affecting milk production in buffalo, differences in milk components in different breeds	=	=
9	2	Learn about milk substitutes, early weaning methods, breastfeeding systems, and weaning systems	Milk replacers and early weaning of buffalo calves, breastfeeding system on whole milk, weaning systems followed in buffalo	=	=
10	2	Learn about the methods of producing meat from buffalo, the characteristics of its meat, and its chemical and	Buffalo meat production, factors affecting the quantity and quality of buffalo meat, characteristics of buffalo carcasses, components of buffalo	=	=

		physical composition.	carcasses, physical and chemical properties of buffalo meat		
11	2	Discussing fattening systems for buffalo calves and how to fatten them	Fattening buffalo calves, fattening systems for buffalo calves, matters that must be taken into account for fattening buffalo calves	=	=
12	2		Second exam	=	=
13	2	Discussing the types of diseases that affect buffalo	Common infectious diseases in buffalo	=	=
14	2	Learn how to manage buffalo within specific systems	Different management systems in buffalo	=	=
15	2	Discussing the problems and obstacles facing buffalo and how to address them	Obstacles facing buffalo breeding in Iraq and ways to improve it	=	=

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)	
Main references (sources)	
Recommended books and references (scientific journals, reports...)	International journals within Scopus index
Electronic References, Websites	Many websites

Course Description Form

1. Course Name:					
English language 4/ intermediate level					
2. Course Code:					
ENGL428					
3. Semester / Year:					
First semester/ fourth year					
4. Description Preparation Date:					
31/03/2024					
5. Available Attendance Forms:					
Mandatory					
6. Number of Credit Hours (Total) / Number of Units (Total)					
1 hour					
7. Course administrator's name (mention all, if more than one name)					
Name: Berevan Qader Omar Email: beree.omer@gmail.com					
8. Course Objectives					
<p>Teaching this curriculum aims to make the student familiar with the English language as it is a global language from which the students will benefit widely in their academic life. This curriculum is an extension of what the students learned in the previous three stages.</p>					
9. Teaching and Learning Strategies					
<p>It is a semi-integrated curriculum for the intermediate level, which includes the necessary basics for learning the English language for the intermediate level, along with exercises. It includes auxiliary verbs and four types of verb tenses, with an explanation of each tense in the form of the affirmative, negative, and question. It also includes an introduction to the modal verbs regarding permission, Obligation and how to make offer and request, as well as an introduction to the future tense.</p>					
10. Course Structure					
Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	1	Introduction to modal auxiliary verbs	Knowledge	lecture	Exercise
2	1	Tenses and auxiliary verbs	Knowledge	lecture	Exercise

3	1	Negative and auxiliary verbs	Knowledge	lecture	Exercise
4	1	Question and auxiliary verbs	Knowledge	lecture	Exercise
5	1	Present simple for intermediate level	Knowledge	lecture	Exercise
6	1	Present continuous for intermediate level	Knowledge	lecture	Quiz
7	1	Past simple for intermediate level	Knowledge	lecture	Exercise
8	1	Past continuous for intermediate level	Knowledge	lecture	Exercise
9	1	Modal verbs	Knowledge	lecture	Exercise
10	1	Modal verbs of obligation and permission	Knowledge	lecture	quiz
11	1	Should, ought to , must	Knowledge	lecture	quiz
12	1	Making request	Knowledge	lecture	Exercise
13	1	Making offers	Knowledge	lecture	Exercise
14	1	Introduction to future	Knowledge	lecture	Exercise
15	1	Future with facts and predictions	Knowledge	lecture	Quiz

11.Course Evaluation

Semester endeavor (40 marks): 15 marks for the first month exam + 5 marks for quiz
15 marks for second month exam + 5 marks for quiz
Final exam (60 marks)

12.Learning and Teaching Resources

Required textbooks (curricular books, if any)	New headway plus (elementary student book) / written by : Liz and John Soars / Oxford university press
Main references (sources)	Cambridge press
Recommended books and references (scientific journals, reports...)	My English library website
Electronic References, Websites	You tube and some useful websites